

## University of Groningen

### From Parents to Partners

Ivanova, Katya Ognyanova

**IMPORTANT NOTE:** You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

*Document Version*

Publisher's PDF, also known as Version of record

*Publication date:*

2012

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Ivanova, K. O. (2012). *From Parents to Partners: the impact of family on romantic relationships in adolescence and emerging adulthood*. s.n.

**Copyright**

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

**Take-down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

# **From Parents to Partners**

The Impact of Family on Romantic Relationships in  
Adolescence and Emerging Adulthood

© Katya Ivanova

ISBN (print):	978-90-367-5371-5
ISBN (digital):	978-90-367-5370-8
Printing:	Ridderprint, Ridderkerk, the Netherlands
Cover design:	Katya Ivanova and Ridderprint
Cover images:	MG & Co

**RIJKSUNIVERSITEIT GRONINGEN**

## **From Parents to Partners**

The Impact of Family on Romantic Relationships in Adolescence  
and Emerging Adulthood

### **Proefschrift**

ter verkrijging van het doctoraat in de  
Gedrags- en Maatschappijwetenschappen  
aan de Rijksuniversiteit Groningen  
op gezag van de  
Rector Magnificus, dr. E. Sterken,  
in het openbaar te verdedigen op  
maandag 5 maart 2012  
om 16.15 uur

door

Katya Ognyanova Ivanova  
geboren op 1 juli 1982  
te Sofia, Bulgarije

Promotores: Prof. dr. M.C. Mills  
Prof. dr. R. Veenstra

Beoordelingscommissie: Prof. dr. M. Deković  
(Universiteit Utrecht)

Prof. dr. W.D. Manning  
(Bowling Green State University, USA)

Prof. dr. S. Lindenberg  
(Rijksuniversiteit Groningen)

# Table of Contents

1	Overview of the Book .....	8
1.1	The Significance of Romantic Relationships in Adolescence and Emerging Adulthood.....	8
1.2	The Life Course Approach.....	9
1.3	Overview of the Four Studies .....	12
1.4	Data.....	14
1.5	Analytical Strategy.....	15
1.6	Summary of Main Findings and General Discussion .....	17
1.7	Limitations and Directions for Future Research.....	20
1.8	Scientific and Societal Relevance .....	21
2	Who Dates? The Effects of Temperament, Puberty, and Parenting on Early Adolescent Experience with Dating .....	26
2.1	Introduction.....	26
2.2	Method.....	30
2.3	Results.....	33
2.4	Discussion .....	36
3	The Initiation of Dating in Adolescence: The Effect of Parental Divorce .....	42
3.1	Introduction.....	42
3.2	Method.....	46
3.3	Results.....	49
3.4	Discussion .....	52
4	Parental Residential and Partnering Transitions as Triggers of Adolescent Romantic Relationships .....	58
4.1	Introduction.....	58
4.2	Method.....	61
4.3	Results.....	64
4.4	Discussion .....	71
5	The “Long Arm” of Childhood Family Relational Climate: Cumulative Effects on Romantic Relationship (Dis)Satisfaction in Emerging Adulthood .....	76
5.1	Introduction.....	76
5.2	Method.....	79
5.3	Results.....	85
5.4	Discussion .....	88

Summary .....	95
Samenvatting.....	99
References.....	103
A Word of Thanks .....	117
TRAILS Dissertation Series.....	119
ICS Dissertation Series .....	121

# Chapter 1

## Overview of the Book



## 1 Overview of the Book

### 1.1 The Significance of Romantic Relationships in Adolescence and Emerging Adulthood

According to Sullivan's (1953) collection of lectures, the quality of people's relations with others is an essential component of individuals' well-being. It is in those interactions that the basic human need for intimacy is satisfied and in adolescence those needs undergo a significant change. Whereas in preadolescence there is a desire for validation and intimacy within a close, same-sex friendship, it is in adolescence that this need develops into a sexual interest and need for intimacy with a peer from the opposite sex. Later on, the establishment of romantic intimacy becomes a central focus in emerging adulthood. Until recently, however, researchers operated under the assumption that romantic relationships in adolescence were far too transient and inconsequential to render further investigations (Collins, 2003). Romance was largely viewed as an "adult" phenomenon and in an era of rapidly increasing rates of marital dissolution (Amato, 2010; Latten & de Graaf, 2010), substantial research has been conducted into the causes and consequences of this trend. However, it is precisely in the context of a rise in multiple and unstable relationships, that the early romantic bonds may be pivotal to our understanding of subsequent intimate relations. After all, to a large extent the meaningfulness of adolescence lies in the fact that in this period earlier childhood experiences are translated into later competencies and statuses and the transition into adulthood is set up (Steinberg & Morris, 2001).

In the past decade, researchers have rediscovered the notion that the establishment of romantic relationships during adolescence is one of the most important developmental tasks of that age (Furman & Shaffer, 2003; Giordano, Longmore, & Manning, 2006). Estimates of the prevalence of adolescent romantic relationships demonstrate that a substantial portion of adolescents have experience with dating. At the age of 12, about a quarter of US adolescents report having had a romantic relationship (Carver, Joyner, & Udry, 2003). Studies among Canadian youth have shown that by the age of 12-13 years old, 58% of adolescents reported at least some dating activity (Friedlander, Connolly, Pepler, & Craig, 2007).

In addition to being rather common among adolescents, romantic relationships have been found to be far from inconsequential for adolescent psychosocial development. Researchers have demonstrated that associations exist between dating and both negative (higher levels of depression, Carver, Joyner, & Udry, 2003; higher drug use; Kobus, 2003; lower school achievement; Quatman, Sampson, Robinson, & Watson, 2001) as well as positive outcomes (discouraging involvement in delinquency, McCarthy & Casey, 2008; higher satisfaction with life, Overbeek, Vollebergh, Engels, & Meeus, 2003). In line with the argument that adolescent dating prepares the foundations for adult intimate bonds, research has shown that a continuity exists between adolescent romantic relationships and the timing of subsequent adult union formation (Raley, Crissey, & Muller, 2007), that they may form the basis for adult experiences such as inter-

partner violence (Gomez, 2011), and that aspects of adolescent dating histories can predict romantic relationship qualities in young adulthood (Madsen & Collins, 2011). Furthermore, romantic partners become a more focal source of support beginning in adolescence (Meeus, Branje, Van der Valk, & De Wied, 2007). The quality of one's intimate partner relationship correlates strongly with different types of (mal)adjustment in emerging adulthood such as substance use (McCollum, Nelson, Lewis, & Trepper, 2005), involvement and desistance from crime (Meeus, Branje, & Overbeek, 2004), and emotional problems such as depression (Rehman, Gollan, & Mortimer, 2008).

Clearly, empirical work has established the significance of romantic relationships for both youth's and adult well-being. Accordingly, understanding the developmental precursors of the ability to establish and maintain successful romantic relationships is essential (Conger, Cui, Bryant, & Elder, 2000). Numerous theoretical frameworks, such as attachment and socialization theories, have proposed that individuals internalize early family experiences which can then affect subsequent experiences in romantic relationships (Waldinger et al., 2002). Accordingly, current research has recognized that the quality of the parental marital bond and parent-child interactions are of key importance for later romantic relationships (Conger, Cui, Bryant, & Elder, 2000; Seiffge-Krenke, Shulman, & Klessinger, 2001). Following this line of research, the main focus of this dissertation is on the significant life course transition of entering into a romantic relationship in adolescence and how this transition can be affected by relations and events within the family (specifically, *Chapters 2, 3, and 4*). Finally, we present a birth-to-maturity perspective on the developmental precursors of emerging adults' (dis)satisfaction with romantic relationships (*Chapter 5*).

For the purpose of this research, we rely on self-reported involvement with a romantic partner to serve as the definition of a romantic relationship. Despite the common perception that young adolescents are unable to distinguish between a "friend" and a "boy/girlfriend", it has been shown that even 9-year olds are able to differentiate between the roles that friends and romantic partners ought to play in one's life (Connolly, Craig, Goldberg, & Pepler, 1999). In our work, we adopt a life course approach to the study of human development as a heuristic framework and pay specific attention to the principles of linked lives, timing, and life-time development (Elder, 1985; Elder & Shanahan, 2006).

## **1.2 The Life Course Approach**

The life course approach to the study of human development was built on insights from a wide range of behavioral and social science disciplines, including sociology (Elder, 1985), demography (Ryder, 1965), and psychology (Bronfenbrenner, 1979). It emerged as a response to the child-based, growth-oriented accounts of development. Instead of viewing the "social context as a 'scene or setting' through which the person - loaded with his or her 'natural predispositions' - must pass" (Elder & Shanahan, 2006, p. 670), the life course paradigm stressed that it is the interplay between the social context and the individual which makes people who they are. According to this paradigm, an individual's

life course consists of multiple transitions (or changes in state) in and out of key social roles (for example, the partnership transition from not-having to having a romantic partner). These life course transitions take place over a short period of time and are embedded in long-term trajectories. An individual's life course consists of multiple, interrelated trajectories which are marked by transitions at their beginning and end (Elder & Shanahan, 2006). Three of the paradigmatic principles which constitute the core of the life course approach are the principles of linked lives, timing, and life-span development (Elder & Shanahan, 2006).

### *Linked lives*

The concept of linked lives emphasizes the role of significant others in shaping the individual's sequence of transitions. No individual develops in isolation from others – people occupy mutually influential and interconnected developmental trajectories with significant others (Elder, Johnson, & Crosnoe, 2003) and each person is bound to the decisions and events in the other's life (Elder, 1985). As Elder and Shanahan (2006, p.696) state, “whatever the plans of an individual, these ‘significant others’ initiate or experience life transitions that produce transitions in his or her own life”. Therefore, based on this concept, one can anticipate that events and transitions in an individual's parents' lives can have a substantial impact on adolescents' life course trajectories. This understanding lies at the core of the study of how parental relational transitions (e.g., from married to divorced to remarried) can shape children's life courses in a multitude of ways.

Theoretical and empirical work has suggested a number of mechanisms that might underlie the link between the parental relational transitions and the next generation's development (for an overview, see Amato, 2000). The principle of “linked lives” lies at the core of all chapters in this dissertation (see for example, the modeling of the early relational climate in *Chapter 5*) but is especially prominent in our examination of how parental transitions (both relational and residential) can be directly linked to the transition to a romantic relationship for the adolescent (see *Chapters 3 and 4*). We borrow from the rich literature on intergenerational transmission of marriage and divorce (Mueller & Pope, 1977; Wolfinger, 2005, 2011) to substantiate the link between specific parental transitions and adolescents' initiation of dating and to outline the possible mechanisms which might underlie this relation.

### *Timing*

When studying the sequence of life course transitions in an individual's life, another important principle to consider is timing. People do not go through their lives in unison but rather differ in the time at which they experience key life course transitions such as leaving school, starting a job, and forming a family (Elder & Shanahan, 2006). Not only is the meaning of these transitions partially derived from their timing within a trajectory but also their developmental precursors and consequences vary according to their timing in a person's life (Elder & Shanahan, 2006). Optimally, transitions occur according to certain collective notions of what is “the ‘best’, ‘ideal’ or preferred’ ages to

experience various life transitions” (Settersten & Mayer, 1997). These perceptions create a certain cultural script of accepted behaviors for an individual in a given life phase (Hagestad, 1986). Whereas transitions which are experienced according to that script are more likely to be shared by peers thus, creating a potential source of support, off-time transitions can often produce negative effects (Hagestad, 1986). A very telling example is the one of parenthood. Research has shown that teenage childbearing can put both the mother and her offspring at socioeconomic disadvantage when compared to peers who had children later (Furstenberg, Brooks-Gunn, & Morgan, 1989). Similarly, research into the consequences of adolescent romantic relationships has suggested that the highly diverse nature of these outcomes (from depression, Carver, Joyner, & Udry, 2003 to discouraging involvement in delinquency, McCarthy & Casey, 2008) can be attributed to their timing in adolescent lives. It is not that dating is a problem behavior per se but rather, when younger adolescents initiate such bonds they can experience poorer psychosocial outcomes than if they forge a romantic relationship at a later age (Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Also related to the issue of timing is the fact that stressful transitions which are experienced during transitional periods (such as the entry into adolescence) can have stronger effects on adjustment than if they are experienced at another time (for an overview, see Graber & Brooks-Gunn, 1996). We incorporate this principle of timing in our work, by trying to understand the developmental precursors of *early* adolescents’ romantic relationships (*Chapter 2*) and by investigating how the effect of a parental divorce can differ according to the age at which the youth experiences that life event (*Chapter 3*).

### *Life course development*

The final key principle in the life course paradigm, that we would like to discuss, is life course development. In contrast to earlier theoretical frameworks, which viewed the life course as a sequence of stages, life course researchers stress that development is best understood from a lifelong perspective in which some processes are cumulative and continuous and others, discontinuous and innovative (Elder & Shanahan, 2006). Already in the 1960’s, sociologists recognized that human socialization, development, and adaptation are lifelong processes (Brim, 1966). The assertion that no life-stage can be understood in isolation from others lies at the core of the life course framework (Johnson, Crosnoe, Elder, 2011). As Elder and Shanahan (2006, p.692) state, “behavioral patterns in midlife are not only influenced by current circumstances and by anticipation of the future, but also by prenatal and early childhood experiences”. In other words, individuals’ life *histories* have a strong impact on later life outcomes (Mayer, 2009). It is important to note here, that development is not seen as strictly linear within this framework; rather, any moment in life can serve as a potential turning point within a behavioral trajectory (Elder & Shanahan, 2006). The life course paradigm rejects the notion that trajectories set early in life are impervious to the effects of later external conditions and contexts (Mayer, 2009). For example, empirical research has shown that the transition to married life can lead to desistance from criminal activity (Blokland & Nieuwbeerta, 2005; Sampson, Laub, & Wimer, 2006). Similarly, in *Chapter 5* of our work,

we approach the study of emerging adults' (dis)satisfaction with their romantic bonds from a life course perspective, tracing the developmental predictors from the early relational climate within the family, to interactions with significant others in adolescence, and finally to the quality of the intimate relationship in emerging adulthood. In doing so, we also recognize the ability of adolescence to exacerbate or serve as a buffer against earlier life course disadvantages (Johnson, Crosnoe, & Elder, 2011).

### **1.3 Overview of the Four Studies**

This section presents an overview of the four empirical chapters in this dissertation. An outline of the specific hypotheses tested, data and methods used, as well as the main findings of each chapter are presented in Table 1.1. These chapters are written in the form of journal articles and are thus, meant to be read in isolation from each other. Therefore, some degree of overlap and repetition is inevitable. The first three chapters examine how perceptions of family relationships and significant parental relational and residential transitions affect adolescents' initiation of romantic relationships. The final chapter focuses on the concept of cumulative development where the early family relational climate affects adolescent functioning within significant relations which in turn influence emerging adult's romantic bonds. More information about the data and analytical methods is given in sections 1.3 and 1.4.

In *Chapter 2*, we focus on understanding who the adolescents who date earlier are with respect to their perceptions of parenting behaviors, and several key individual level characteristics. This first empirical chapter establishes if the family climate and early adolescent romantic relationships are related as expected based on the heuristic framework of this dissertation. Furthermore, understanding who is likely to engage in such intimate bonds in early adolescence can help explain why these relations can, at times, be associated with negative outcomes. Based on previous work on how individual level characteristics affect success with peers (e.g., Sanson, Hemphill, & Smart, 2004; Zimmer-Gembeck, Siebenbruner, & Collins, 2004), we hypothesize that preadolescents who are less socially inhibited and more open to others, are also more likely to report dating experience in early adolescence. Furthermore, we anticipate that preadolescents, who are more advanced in their pubertal maturation, are also more likely to initiate romantic relationships by the age of 13.5. Based on the assumptions of Interdependence theory (Kelley & Thibaut, 1978) and work on the effects of experiencing parental control as denying adequate autonomy (Moffitt, 1993), we expect that preadolescents who perceive their parents as accepting and emotionally warm, are less likely to have dating experience in early adolescence. On the other hand, perceived parental overprotection and high parental rejection are expected to be associated with an increase in the likelihood of dating. Additionally, based on conditional models of influence (for overviews, see Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Sanson, Hemphill, & Smart, 2004), we investigate if the nature of parental influence on development depends, in part, on individual characteristics.

*Chapter 3* focuses on how a significant parental transition, which can affect the family environment and how adolescents experience it, influences the propensity to initiate dating. We focus on the effect of parental divorce on the transition to adolescents' first romantic relationships and whether the hypothesized effect is moderated by the age of the adolescent at the time of the marriage dissolution. Here we focus on the concepts of "linked lives" and the principle of timing of transitions (Elder, 1985; Elder & Shanahan, 2006). Substantial changes in the lives of adolescents are in part shaped by the events and transitions in their parents' lives. Numerous studies have demonstrated how stressful life transitions in the lives of one's parents can affect youth's adjustment (e.g., Amato 2000; Wolfinger, 2005, 2011). Based on the mechanisms outlined in this literature, we expect that adolescents who experience a parental divorce will transition to their first romantic relationship faster than their counterparts from intact families. However, one also has to account for the timing of these transitions given that the consequences of life transitions can vary according to their timing in the life course (Elder & Shanahan, 2006). Previous work has shown that stressors which are experienced during transitional periods such as the entry into adolescence, can have stronger effects on adjustment than if they are experienced at another time (for an overview, see Graber & Brooks-Gunn, 1996). Therefore, we hypothesize that the effect of parental divorce on the transition to dating will be strongest when the marital dissolution happens in early adolescence due to the multiple other transitions that youth face at that time (e.g., entry into adolescence, move to secondary school).

*Chapter 4* extends the work in the previous chapter by acknowledging that the experience of a parental union dissolution is much more than a single event but is rather, a "multi-phase" process in which a number of parental transitions take place, each with its own potential influence on adolescent development. We examine how specific parent-child co-residential and parental re-partnering events, related to the dissolution of the parental relationship, affect adolescents' propensity to date while also accounting for the family composition at the entry into adolescence. Our key innovation is that by adopting an event history approach, we are able to move beyond the examination of merely associational relationships to establish a clear causal link between parental and adolescent life transitions. Previous work has discussed how single parents' own dating behaviors can model their adolescents' openness to dating and sexuality in general (Whitbeck, Simons, & Kao, 1994). Therefore, we hypothesize that the initiation of a new romantic relationship by either one of the parents will lead to a faster transition to dating by the adolescent. However, in the majority of cases, Dutch children stay with their mother after parental union dissolutions (de Graaf, 2008) and are thus, more readily exposed to her dating behaviors than to their father's. Therefore, we expect the hypothesized effect of parental dating behaviors to be stronger in the case of a new maternal than a new paternal partner. Additionally, the transition from a two- to a single-parent family can be associated with lower levels of parental monitoring (Demo & Acock, 1996; Kim, Hetherington, & Reiss, 1999) which, in turn, is associated with an increased likelihood of dating (Friedlander, Connolly, Pepler, & Craig, 2007). Therefore, we expect that once a



parent leaves the household, adolescents will make the transition to a romantic relationship faster than before the parental transition.

Finally, in *Chapter 5*, we study the developmental precursors of emerging adults' (dis)satisfaction with their romantic relationships by investigating the cumulative effect of the early relational climate within the family. Instead of taking a "snapshot approach" where a starting point is linked to a developmental end point, we examine a specific sequence in which childhood family interactions predict worries about peer relations and parent-adolescent conflict in adolescence that, in turn, predict individuals' (dis)satisfaction with romantic relationships in emerging adulthood. In doing so, we recognize the co-dependent and mutually influential nature of the parent-child and marital bond in the family of origin (Erel & Burman, 1995; Krishnakumar & Buehler, 2000) and also the fact that human development is a lifelong process where each phase sets up the stage for the next one but can also serve as a turning point within the developmental trajectory (Elder & Shanahan, 2006). In line with family systems theory (Cox & Paley, 2003; Minuchin, 1974; Minuchin, 1985) and evidence supporting the "spillover hypothesis" (Erel & Burman, 1995; Krishnakumar & Buehler, 2000), in this chapter, we expect to find two distinct childhood latent developmental classes, characterized by similar quality marital and parent-child bonds. In line with a cumulative pathways model of development (Bowlby, 1973), we then expect that these childhood developmental classes will predict parent-child conflict and peer worries in adolescence. These, in turn, will predict (dis)satisfaction with romantic relationships in emerging adulthood. Finally, we expect that when cumulative effects are present – when low-quality childhood family interactions are followed by higher peer worries and parent-adolescent conflict and low-quality communication – the detrimental effects on romantic relationship satisfaction in emerging adulthood will be strongest.

## **1.4 Data**

Two longitudinal data sources are used in this dissertation. The first three empirical chapters focus on the period from pre- to mid-adolescence and utilize the Dutch TRacking Adolescents' Individual Lives Survey (TRAILS; De Winter et al., 2005; Huisman et al., 2008). The final chapter examines long-term prospective associations from childhood to emerging adulthood, making use of the Swedish Solna study (Karlberg et al., 1968).

TRAILS is an ongoing prospective cohort study of Dutch youth, focused on the development of mental (ill)health from childhood to adulthood. Participants come from five municipalities, including both urban and rural areas in the North of the Netherlands. Of all children and parents approached for participation in the TRAILS study, 76.0% gave their consent, resulting in an initial sample of 2,230 participants. The biennial data collections began in 2001 when the participants were about 11 years old. A more detailed description of TRAILS' design, sampling procedures, data collection, measures, and attrition analyses can be found in De Winter et al. (2005) and Huisman et al. (2008).

We have chosen to use the TRAILS dataset for several reasons. First, it provides a large range of multi-informant prospective measures of adolescent psychosocial and physical development, the quality of the family climate, and the parent-adolescent relationship. These data are key for our understanding of the characteristics of early dating adolescents. Second, it includes data from detailed Event History Calendar interviews which offer an overview of the precise months in which significant life events have taken place in the lives of the adolescents in the preceding five years (e.g., parental divorce, the beginning of a new romantic relationship by the participants or either one of their parents). These data in particular allow us to properly model the causal link which we expect exists between significant parental and adolescent transitions. Lastly, these data offer us the opportunity to examine family effects on adolescent romantic relationships in a context beyond North America, where the majority of the literature comes from. In *Chapter 2*, the multi-informant (parent- and self-reported) questionnaire-based data from the first two waves are utilized. The data for *Chapters 3* and *4* stem from the Event History Calendar interview which was collected during the third wave of TRAILS (2005 - 2007).

In the Solna study, data were gathered from a random sample of 212 children born between 1955 and 1958 in Solna, a suburb of Stockholm, Sweden. The sample was representative of Swedish children in urban settings and for the most part, of Swedish children in general. For a more detailed description of the sample characteristics, see Karlberg et al. (1968). We have chosen to utilize this dataset for our final empirical chapter because of several unique opportunities that it provides. In the Solna study, the data from the childhood period were collected annually from the participant's first year up to the age of 18 and consisted of responses given by the mother to questions which were part of a longer social interview (including questions on the quality of the marital and the parent-child relations). These data allow us to model developmental trajectories of family interactions across childhood. Additionally, the Solna study includes a number of questionnaires filled out by the participants at regular time intervals during their teenage years (e.g., information on parent-adolescent and peer relations). Finally, the self-reported data collected when the respondents were 25 years old, assessed the quality of the participants' partner relationships. The combination of these data, spanning over a 25-year-long period, allows us to prospectively examine cumulative effects from the childhood family climate, to relations with significant others in adolescence, to (dis)satisfaction with one's romantic relationship in emerging adulthood (age 25).

## **1.5 Analytical Strategy**

*Chapter 2* focuses on understanding who the adolescents that date early are with respect to their individual characteristics (temperament and physical development) and perceptions of parenting behaviors. The possible interplay between these predictors is also considered. We utilize a logistic regression model with dating status in early adolescence (by the age of 13.5) as the dependent variable. To interpret the outcomes of the logistic regression, we report marginal effects (Borooah, 2001; Liao, 1994). To



facilitate interpretation and provide an impression of the strength of the significant interactions, we write out multiple equations using simple slope analysis (Aiken & West, 1991), with high and low levels of the predictors indicating one standard deviation above and below the mean, while holding all other variables to the sample mean.

*Chapter 3* examines whether the experience of a parental divorce speeds up the transition to the first romantic relationship in adolescence. To examine this effect, individual differences in temperament and pubertal development, and the age of the adolescent at the time of divorce are taken into account. The hypotheses are tested using event history analysis. First, in order to compare if the transitions to first and higher order romantic relationships differ, we estimate nonparametric survival curves (Kaplan & Meier, 1958). Subsequently, we utilize a Cox (1972) semi-parametric regression model to study how the experience of a parental divorce in three developmental stages (pre-, early, and mid-adolescence) affect the adolescent's hazard of dating.

In *Chapter 4*, two sets of analyses are performed. First, we study the association between family structure history and instability with the number of adolescent romantic relationships. In order to do so, we use count data hurdle models (Mullahy, 1986) to examine the effects of family structure history and instability on the number of adolescent romantic relationships. In the second set of models, we adopt an event history framework and estimate a discrete-time recurrent event model (Allison, 1982; Mills, 2011) that allows us to examine how parental transitions (e.g., biological parent's move out of the house, the start of a new romantic relationship by a parent) can *trigger* the adolescent to start dating. By adopting an event history approach, we are able to move beyond the examination of merely associational relationships, to a deeper causal understanding of how parental transitions impact adolescent romantic lives. Because adolescents can experience more than one romantic relationship, we estimate a recurrent event model (Aalen, Borgan, & Gjessing, 2008; Mills, 2011), with recurrent dating events nested within individuals. The multiple dating events for the same adolescent can be correlated due to the presence of unobserved individual-specific factors that affect the occurrence of each event. Therefore, we estimate a discrete-time recurrent event complementary log-log (cloglog) model with random effects (Aalen, Borgan, & Gjessing, 2008; Steele, 2005; Therneau & Gambsch, 2000).

*Chapter 5* focuses on how childhood family interactions are related to emerging adults' romantic relationship (dis)satisfaction. First, we model the codependent and mutually influential nature of the parent-child and marital bonds in the family of origin. To do this, we use growth mixture modeling and specify a parallel growth model to simultaneously estimate the childhood trajectories for the quality of the two relations. We integrate these trajectory parameters into one overall latent development classification (cf. Li, Barrera, Hops, & Fisher, 2002). For each participant, this estimation technique yields a coefficient that specifies the likelihood of belonging to a specific latent developmental class. This variable is then used as the basic predictor in the subsequent analyses. In order to demonstrate that no direct effect exists of the early relational climate on the romantic relationship in emerging adulthood but that it rather affects relations in

adolescence which in turn affect the outcome at age 25, we utilized the SPSS bootstrapping approach described by Preacher and Hayes (2008). This strategy was used because it is suitable for testing multiple intermediary variables simultaneously. (in this case, peer worries and parent-adolescent conflict). In the final step, we perform a linear regression analysis in which we regress the latent developmental class membership and the assessments of the adolescent relations on emerging adults' (dis)satisfaction with their romantic bonds. We also include interactions between the latent class membership and the adolescent measures. In this way, we are able to examine if relations in adolescence may exacerbate or buffer the detrimental effect of low-quality family experiences in childhood on dissatisfaction with one's romantic relationship in adulthood.

## **1.6 Summary of Main Findings and General Discussion**

In this book we set out to understand the impact of family on romantic relationships in adolescence (*Chapters 2, 3, and 4*) and emerging adulthood (*Chapter 5*). We adopted the life course perspective on human development as a heuristic framework (Elder, 1985; Elder & Shanahan, 2006) and focused on three of its paradigmatic principles in particular: linked lives, timing, and life-span development. We provide evidence that the way adolescents perceive their relations with parents, as well as, major parental transitions such as divorce, residential moves, and re-partnering, can be directly linked to youth's "exit" from the household in the form of initiation of dating (*Chapters 2, 3, and 4*). Furthermore, we demonstrate that this effect of the early relational climate spans much further than adolescence. It does in fact, indirectly influence the quality of intimate relations in emerging adulthood through its effect on close relations in adolescence (*Chapter 5*). In the following section, we provide a more detailed overview and discussion of our main findings.

In *Chapter 2*, we focused on adolescents who date early. As expected, we found that youth who scored higher on preadolescent pubertal maturation, the need for high-intensity pleasure, and perceived parental rejection, and scored lower on shyness were more likely to have an early dating experience. Earlier work has shown that less socially inhibited and more physically mature adolescents are more likely to be successful with peers and to have dating experience (Friedlander, Connolly, Pepler, & Craig, 2007; Sanson, Hemphill, & Smart, 2004). Our findings with respect to the individual characteristics of early dating adolescents therefore, support existing research. The striking finding of this chapter, however, relates to the perception of parents' child-rearing behaviors. The results showed that the perception of one's parents as rejecting was associated with higher odds of dating irrespective of one's temperament characteristics such as the need for high-intensity pleasure. We interpret this as an indication that romantic relationships at that age could be serving a "compensatory" function. It appeared that early adolescents were more likely to engage in romantic unions when their fundamental need for belongingness and intimacy (Baumeister & Leary, 1995) was not met within the family. This finding is in line with work which has demonstrated the compensating role which peer acceptance can play when the

adolescents perceived their parents as rejecting in the prediction of problem behaviors (Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010). Although romantic partners and parents are probably sources of different kinds of intimacy and companionship, when adolescents were deprived of these at home, they searched for alternatives elsewhere. Interestingly, contrary to our expectations, we did not find that preadolescents who perceived their parents as warm and accepting were *less* likely to date. Possibly, rejection within the family is felt much stronger and, thus, initiates compensatory mechanisms, whereas the presence of warmth and unconditional acceptance is taken for granted and does not affect the likelihood of dating in early adolescence.

In *Chapter 3*, we examined the effect of a specific parental transition (i.e., divorce) on the initiation of adolescents' first romantic relationships. As hypothesized, we found that once adolescent temperament and pubertal development were accounted for, adolescents who experienced a parental marital disruption progressed to their first dating episode much faster than adolescents from intact families. Furthermore, the effect of divorce was highly time-specific. As expected, only the divorces which took place in early adolescence sped up the transition to dating. The experience of a parental marital dissolution in preadolescence or mid-adolescence did not have a significant effect on the propensity to date. This finding is in line with the work on heightened sensitivity to stress during transition periods (Graber & Brooks-Gunn, 1996). During early adolescence, youth go through multiple physiological changes with the onset of puberty and the transition to a new school environment with the move to secondary school. Therefore, this could be the time when adolescents and their behaviors are most affected by the disturbance of a parental marital dissolution. It is important to note that in *Chapter 3* we focused on the adolescent reported date of parental divorce on the transition to dating. It has previously been noted that divorce is an ongoing process and not a single event (Kim, 2011; Potter, 2010). It is possible that the date of marital dissolution is not the factor that affects adolescent initiation of dating but rather, it is the stressful events which surround the date of the legal parental separation (e.g., residential changes, re-partnering of parents). We therefore, focused on this issue in the subsequent chapter of this dissertation.

In *Chapter 4* we investigated whether key transitions that can accompany parental relational dissolution could *trigger* romantic relationships in adolescence. These parental changes included: a parental move out of the household and the possible subsequent parental re-partnering, examined separately for mother and father. We found that among the considered parental transitions, only the initiation of a new romantic relationship by the mother triggered the initiation of a romantic relationship by the adolescent. In contrast, a new paternal partner did not have an effect. This was in line with our expectations that the mother's dating behaviors would be more influential than the father's and can possibly result of the fact that about 85% of Dutch children stay with their mothers after parental union dissolution (de Graaf, 2008). The precise mechanism behind this finding however, remains unclear. Besides the possible socialization effects which could be at play, it could also be that once the mother initiates a new romantic

relationship, there is a certain decrease in parental monitoring of adolescent activities which has been linked to higher likelihood of dating (Friedlander, Connolly, Pepler, & Craig, 2007). Our second key finding of this chapter is that whereas residing in a stepparent family increased the adolescent propensity to date, coming from a single-parent household actually *decreased* it. The latter result is particularly interesting in light of reports that residing in a single-parent family is associated with a higher likelihood of being in a dating relationship and the overall number of relationships for adolescents (Cavanagh, Crissey, & Raley, 2008), greater odds of early cohabitation for young adults (Ryan, Franzetta, Schelar, & Manlove, 2009), and increased risk of teenage pregnancy (Teachman, 2004) to mention just a few. This finding likely points to the decidedly different contexts in which Dutch and US single-parent families are embedded. In the Netherlands, single-parent households benefit substantially from various family income and tax measures (Lok, 2009) and only a very small percentage of single-parents work full-time (Portegijs, Cloin, Ooms, & Eggink, 2006). In comparison, about half of all custodial parents in the United States work full-time, year-round (Grall, 2009). These markedly different economic circumstances inevitably affect not only a number of parenting behaviors (e.g., knowledge of the adolescent's whereabouts) but also the quality of the family climate. As we showed in *Chapter 2*, adolescent perceptions of the parent-child bond certainly matter when the adolescent's propensity to date is concerned.

In the final chapter of this dissertation, *Chapter 5*, we looked beyond adolescence and focused on the impact of the early relational climate on the quality of emerging adults' intimate bonds. As expected, we identified two developmental classes of similar quality marital and parent-child bonds. In line with a cumulative pathways model of development (Bowlby, 1973), we found that a combined childhood trajectory of low marital quality and a negative mother-child bond predicted conflict and low-quality communication with parents in adolescence, which *in turn* predicted dissatisfaction with one's romantic relationship in emerging adulthood. We did not find the expected indirect path through peer worries in adolescence. The cross-relationship continuity which we found (from parents to partners) could be due to a number of factors such as the acquisition of better interpersonal skills when reared in a warm and nurturing environment (Feldman, Gowen, & Fisher, 1998) and also more successful conflict resolution strategies (Olsen, Parra, & Bennett, 2010; Simon & Furman, 2010). Additionally, we showed that adolescent relational experiences mattered in the pathway from childhood to emerging adulthood experiences. Parent-adolescent conflict was damaging to the intimate bonds at age 25 only for the participants who came from families with high-quality early relational climates. On the other hand, low peer worries could buffer the effect of early adversity for those from families with low-quality early relational climates. In other words, it is not that a direct link exists between early adversity and later life outcomes. Instead, early experiences have an indirect impact on later functioning through the initiation of a specific developmental sequence or a chain of events (Sroufe, Coffino, & Carlson, 2010). Furthermore, development across the life course is not strictly linear; any moment in life can serve as a potential turning point within a behavioral trajectory. In our case, emerging adults from families with a low

quality early relational climate who had positive experiences with peers in adolescence did not report lower satisfaction with their romantic relations than their counterparts from families with positive relational climate. Essentially, what happens in the family does not necessarily set future development in stone.

## **1.7 Limitations and Directions for Future Research**

Several important limitations of this work need to be addressed when considering the implications of our findings. Firstly, although we establish a clear link between family experiences and the initiation of adolescent romantic relations, we are unable to draw any conclusions about the quality of these intimate bonds. It is possible that when adolescents initiate dating relations as a mean to avoid certain unpleasant situation at home (e.g., findings from *Chapter 2*), they do so before being “ready” for such a bond or with an insufficient set of skills to properly function within it. Such negative first romantic experiences might be detrimental to future intimate relations. This however, is speculative and future work should also consider what the quality of adolescent romantic bonds is following, for example, a parental union dissolution.

The two datasets which we selected for our work have provided us with some unique opportunities (e.g., long term prospective data from multiple informants and across various close relationships). At the same time however, they come with a certain set of challenges. Three of the chapters in this dissertation are written using the Dutch TRacking Adolescents’ Individual Lives Survey (TRAILS). The main limitation of this dataset is the fact that these data were collected in the North of the Netherlands, a region with a relatively homogeneously native Dutch population. This precludes us from investigating any possible ethnic differences in the impact of family on adolescent romantic relationships. Additionally, future work should consider a more direct comparison of the effects of parental transitions across institutional and social contexts. In *Chapter 4* of our work, we point to clear differences in the findings about the impact of single-parent households on adolescent dating in the US and in the Netherlands. However, our interpretation that this dissimilarity is due to disparities in institutional contexts remains speculative and future research should investigate the issue further.

Another important limitation of our data concerns the dataset used for the final chapter of this work, the Swedish Solna study. Although it affords the opportunity to track the precursors of emerging adults’ satisfaction with intimate bonds over a 25 year long period, the low number of participants is restrictive. The sample size precludes us from examining possible gender differences or whether our findings are driven by child effects. For example, it is possible that the low quality mother-child and marital bonds are the result of children’s behavioral problems or psychopathology. In turn, difficult temperament or low sociability may act as confounding variables in explaining the relationship between childhood family adversity and dissatisfaction with one’s romantic relationship in emerging adulthood. Because we are unable to run multigroup analyses due to Solna’s sample size, future work could benefit from considering this potential account of our findings and properly controlling for possible confounders.

A final limitation concerns our inability to test the specific mechanisms which link family events and adolescent romantic relationships. We provide evidence that experiencing one's relationship with parents in a certain way (*Chapter 2*) or particular parental transitions (*Chapters 3 and 4*) can result in an increased likelihood of adolescent dating. Although we speculate about the mechanisms behind these links (decrease in parental monitoring, socialization effects), we do not explicitly test them – a caveat which future work should address with much more detailed data, collected before, during, and after significant family transitions.

## **1.8 Scientific and Societal Relevance**

In our work, we contribute to the inquiry into the link between the family and romantic experiences in several noteworthy ways. First, the vast majority of research into the family effects on adolescent romantic relationships has been performed in the US context. This is not a surprise in light of the fact that some of the richest, prospective, representative datasets have been initiated and carried out by American researchers (e.g., the National Longitudinal Study of Adolescent Health or ADD Health). Although the studies performed with these data have provided a vast wealth of information about adolescent romantic relations, it would be unwarranted to extend their conclusions to strikingly different cultural and institutional contexts. Our work does not explicitly compare the US and European contexts. However, our findings provide a useful insight into what the family effects on adolescent romantic relations might be beyond the US setting. For example, in *Chapter 4* we show that coming from a single-parent household decreases the odds of dating for Dutch adolescents, whereas it increases them in the US context. We interpret this finding in light of the fact that single parents in the United States spend a substantially larger portion of their time away from their maturing adolescents and engaged in the labor market compared to their Dutch counterparts (for information on US single parents labor marker participation, see Grall, 2009; for information on Dutch single parents, see Portegijs, Cloin, Ooms, & Eggink, 2006). This finding is important to consider in the discussion of various governmental measures to support alternative to two-biological-parents families.

Our second main contribution is our ability to test if a causal link exists between events within the family and the initiation of adolescent romantic relationships. From a theoretical point of view, the lives of parents and adolescents are linked with transitions in one, capable of producing change in the other (Elder, 1985; Elder & Shanahan, 2006). However, establishing such a link empirically has been a challenge. What has often been done in the past is to demonstrate an association between, for example, the marital status of the parents and the adolescent's dating status in the population under study and perhaps over time (e.g., Cavanagh, Crissey, & Raley, 2008). Statements about associations, however, describe what has happened. They are quite different from causal statements designed to say something about how events are triggered by other events (Blossfeld & Mills, 2001). In our work, we get at this causality by examining how parental



transitions can condition changes in the romantic lives of their adolescents (for example, see *Chapter 4*).

Finally, we test the concept of cross-relationship continuity (from relations with parents to relations with peers and romantic partners) across a substantial part of the life course. Even though the existence of cross-relationship continuity has been recognized, investigations have either looked into the direct effects of early experiences on adult intimate bonds (Conger, Cui, Bryant, & Elder, 2000; Roisman, Collins, Sroufe, & Egeland, 2005) or into the effects of adolescent experiences on adult romantic relationships (Crockett & Randall, 2006; Dhariwal, Connolly, Paciello, & Caprara, 2009; Seiffge-Krenke, 2003; Seiffge-Krenke, Shulman, & Klessinger, 2001). Thus, despite the proposition of cross-relationship continuity, studies have not examined the full developmental sequence across the life course. In line with the view of human development as a life-long, cumulative process (Elder, 1985; Elder & Shanahan, 2006) we demonstrate how each developmental phase not only sets the stage for the subsequent one, but can also serve as a significant turning point (for example, see *Chapter 5*). In other words, our findings show how early circumstances might condition a particular life-trajectory and how life experiences can act as buffers to previous adversity and thus, alter later life outcomes.

**Table 1.1**

*Overview of the Empirical Chapters*

Chapter and Main Hypotheses	Predictor(s) and Outcome(s)	Data and Analyses	Main Findings
<b>Chapter 2:</b> Adolescents, who score high on the need for high-intensity pleasure (surgency), low on effortful control and shyness, and high on the need for affiliation with others, will be more likely to date. Adolescents, who are more advanced in their pubertal maturation, will be more likely to date. Adolescents, who perceive their parents as accepting and emotionally warm, will be less likely to have experience with romantic relationships. Adolescents, who perceive their parents as rejecting or overprotective, will be more likely to have experience with romantic relationships.	<i>Predictors:</i> Individual: pubertal maturation and temperament Parenting: adolescents' perception of parental warmth, acceptance, and rejection; <i>Outcome:</i> Early adolescent dating status (by age 13.5)	TRAILS: first and second waves; Logistic regression	Surgency, pubertal development, and parental rejection increased the likelihood of dating; Shyness decreased these odds; Significant surgency by parental rejection interaction: the more rejecting the parents were, the less effect surgency had on dating
<b>Chapter 3:</b> For the adolescents who experience a parental divorce, the time to first romantic relationship will be shorter than for their peers from intact families. Adolescents' initiation of dating will be most affected by a parental divorce experienced in early adolescence.	<i>Predictor:</i> Age at parental divorce; <i>Outcome:</i> The month in which the first romantic relationship was initiated	TRAILS: wave 1 and Event History Calendar; A multivariate Cox semi-parametric regression model	Parental divorce sped up the transition to dating <i>only when</i> experienced in early adolescence



Chapter and Main Hypotheses	Predictor(s) and Outcome(s)	Data and Analyses	Main Findings
<p><b>Chapter 4:</b></p> <p>The initiation of a new romantic relationship by either one of the parents will lead to a faster transition dating by the adolescent; this effect will be stronger in the case of a new maternal than a new paternal partner.</p> <p>A parent's move out of the household will speed up the transition to a romantic relationship for the adolescent.</p>	<p><i>Predictors:</i> A biological parent's move out of the house and the beginning of a new relationship by either parent; Family structure at beginning of observation;</p> <p><i>Outcome:</i> The initiation of a new relationship by the adolescent; The count of adolescent romantic relationships</p>	<p>TRAILS: wave 1 and Event History Calendar;</p> <p>Count data hurdle models; A discrete-time recurrent event complementary log-log model with random effects</p>	<p>The introduction of a new maternal partner acted as a trigger;</p> <p>Coming from a step-parent family increased and coming from a single-parent family decreased the hazard of dating</p>
<p><b>Chapter 5:</b></p> <p>Two distinct childhood latent developmental classes will be identified, characterized by same quality marital bond and parent-child relationship.</p> <p>The childhood developmental classes will predict parent-child conflict and peer worries in adolescence which <i>in turn</i> will predict romantic relationship dissatisfaction at age 25.</p> <p>When cumulative effects are present (low-quality childhood family interactions followed by higher peer worries and parent-adolescent conflict) the detrimental effects on romantic relationship satisfaction will be strongest.</p>	<p><i>Predictors:</i> Yearly measures of the quality of the marital and mother-child relations (ages 4 to 10); Youth reported peer-related worries and conflict and quality of communication with parents (ages 15 to 17);</p> <p><i>Outcome:</i> Satisfaction with romantic relationship at age 25</p>	<p>The Swedish Solna study: age 4 to age 25;</p> <p>Growth mixture modeling; A multiple mediation model using a bootstrapping approach;</p> <p>Multivariate linear regression</p>	<p>Two classes: one with low and one with high quality family bonds were identified; Class membership predicted parent-adolescent conflict which <i>in turn</i> predicted relation quality at age 25; The effect of family adversity could be somewhat "offset" by low peer worries</p>

# Chapter 2

## Who Dates? The Effects of Temperament, Puberty, and Parenting on Early Adolescent Experience with Dating\*

This chapter focused on how temperament, pubertal maturation, and perception of parenting behaviors affect the propensity to date in early adolescence (mean age of 13.55). Hypotheses were tested with a representative sample of 2,230 Dutch adolescents, the 'Tracking Adolescents' Individual Lives Survey (TRAILS). The results suggested that adolescents were more likely to have experience with dating when they scored higher on the need for high-intensity pleasure, pubertal maturation, and perceived parental rejection. Shyness on the other hand, had the opposite effect. Additionally, a moderation effect was observed such that the more rejecting the parents were perceived to be, the less effect the temperament characteristic of high-intensity pleasure had on dating. Future research should investigate in further detail if dating could be seen as a way for early adolescents to establish their grown-up status or a way to compensate for heightened parental rejection.

---

\* This chapter is based on:

Ivanova, K., Veenstra, R., & Mills, M. (2012). Who Dates? The effects of temperament, puberty, and parenting on early adolescent experience with dating. The TRAILS study. *Journal of Early Adolescence*. Advance online publication. doi: 10.1177/0272431610393246

## **2 Who Dates? The Effects of Temperament, Puberty, and Parenting on Early Adolescent Experience with Dating**

### **2.1 Introduction**

The past decade has seen a rediscovery of Sullivan's (1953) notion that the establishment of romantic relationships during adolescence is one of the most important developmental tasks of that age (Furman & Shaffer, 2003). At the age of 12, about a quarter of US adolescents report having had a romantic relationship (Carver, Joyner, & Udry, 2003). Studies among Canadian youth have shown that at the mean age of 12 - 13 years old, 58% of adolescents reported at least some dating activity (Friedlander, Connolly, Pepler, & Craig, 2007). In addition to being rather common among adolescents, romantic relationships have been found to be far from inconsequential for adolescent psychosocial development. Whereas some studies have established associations between having a boyfriend/girlfriend and maladjustment (depression, Joyner & Udry, 2000; higher drug use; Kobus, 2003; lower school achievement; Quatman, Sampson, Robinson, & Watson, 2001), others have shown that adolescents involved in romantic relationships report higher life satisfaction (Overbeek, Vollebergh, Engels, & Meeus, 2003) and score better on measures of social competence and feelings of self-worth (Collins, 2003; Furman & Shaffer, 2003). Researchers have suggested that the mixed nature of the findings could be attributed to the highly diverse timing of these romantic relations – adolescents vary widely in the age at which they begin dating (Furman, 2002; Neeman, Hubbard, & Masten, 1995).

A developmental pathway has been established in research from same-sex best-friend bonds before the beginning of adolescence, to participation in mixed-sex groups where some dating behaviors can take place during early and mid-adolescence, to more exclusive opposite-sex romantic relations (Connolly, Craig, Goldberg, & Pepler, 2004). Previous work on the effects of dating on adolescent adjustment has suggested that significant deviations from this developmental pathway (such as over-involvement in romantic bonds at an early age) can be associated with poorer psychosocial outcomes than romantic relationships at later ages (Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Therefore, it is not that dating is a problem behavior per se but rather, when early adolescents initiate such bonds, they can potentially be associated with negative consequences.

Despite the significance of romantic involvement for early adolescent well-being, the study of what makes someone more likely to date at that age is rather limited. In order to advance the understanding of adolescent dating behavior, specific research into the determinants of those romantic relationships is necessary (Zimmer-Gembeck, Siebenbruner, Collins, 2004). Knowing who is likely to engage in such intimate bonds in early adolescence can help explain why these relations can at times be associated with negative outcomes.

The aim of the current study was to add to existing research on the factors associated with early adolescent dating. In this work, we approached adolescent dating as

a facet of social development which has been defined by Schaffer (1996) as ‘the behaviour patterns, feelings, attitudes, and concepts children manifest in relation to other people’ (p.1). In line with previous work on social development, we expected that the factors which would affect adolescent propensity to date originate both from the individual, as well as, from the environment (Sanson, Hemphill, & Smart, 2004). In our work, we focused on adolescent physical maturation, a set of relatively stable individual characteristics (temperament), and adolescent perceptions of parental rearing behaviors. Additionally, we considered if these parenting rearing behaviors moderated the effect of the individual characteristics on early adolescent propensity to date.

#### *Individual characteristics and dating*

Temperament has been defined as a set of relatively stable characteristics which make children more or less easily influenced by environmental factors (Rothbart, Ahadi, & Evans, 2000). These predispositions that appear in childhood affect social development by influencing the individual’s inhibition or initiation of behaviors in the social environment (Buss & Plomin, 1984). Research has also suggested that characteristics of behavioral individuality, such as temperament, are of high importance during periods of multiple transitions like the entry into adolescence when youth face, among others, the onset of puberty, change of school, and a heightened interest in cross-sex interactions (Talwar, Nitz, & Lerner, 1990). We focused on three of Putnam, Ellis and Rothbart’s (2001) broad temperament factors which were likely to affect early adolescent success with peers (and, in turn, potential dating partners): surgency or the tendency to approach novel situations; effortful control or the ability to regulate behavior; and affiliation or the desire for closeness with others.

A large body of literature exists on the direct relationship between temperament and the social development of adolescents (Sanson, Hemphill, & Smart, 2004). For example, temperament has been shown to affect adolescent likelihood of establishing peer relations (e.g., research on inhibition and social withdrawal, Sanson, Hemphill, & Smart, 2004) and the quality of these relationships (e.g., positive association between sociability and friendship quality, Zimmer-Gembeck, Siebenbruner, & Collins, 2004). In turn, high quality peer interactions have been found to be related to an earlier age of onset of romantic relationships (Zimmer-Gembeck, Siebenbruner, & Collins, 2004). Additionally, higher standing among peers has been shown to be positively associated with the likelihood of having dating experience (e.g., Franzoi, Davis, & Vasquez-Suson, 1994; Miller, Lansford, Costanzo, Malone, Golonka, Killea-Jones, 2009). In other words, adolescents who are less socially inhibited and more open to others, appear to also be more successful in their peer relationships and thus, are more likely to report having dating experience. In line with the outlined earlier research, we hypothesized that *adolescents who score high on surgency, low on effortful control and shyness, and high on the need for affiliation with others would be more likely to have experience with romantic relationships.*

The final individual characteristic that we focused on was adolescent pubertal maturation. As Natsuaki, Biehl and Ge (2009) state, “Puberty is the most salient

biological event during adolescence” (p.48). Previous research has already reported that adolescent pubertal maturation is positively associated with the likelihood of dating. Adolescents in a more advanced stage of puberty are more likely to report dating activity (e.g., Friedlander, Connolly, Pepler, & Craig, 2007; Phinney, Jensen, Olsen, & Cundick, 1990). Often however, a self-rated measure of pubertal maturation has been used and as the authors themselves have noted, this could lead to a biased inflation in the scores (Friedlander et al., 2007). In contrast, we used a more conservative, parent-rated measure of this individual characteristic. In line with earlier work, *we expected that adolescents who were more advanced in their pubertal maturation would be more likely to date.*

### *Parenting and dating*

Parents are the principle persons with whom children interact at an early age and thus, parenting is one of the most significant dyadic processes which can affect subsequent development. In his review of the field of parent-adolescent relationships, Steinberg (2001) elaborated that research in the past few decades has shown that parents play a crucial role in facilitating positive adolescent development. Even though in adolescence the peer group becomes increasingly more influential, a high-quality relation with one’s parents has consistently been found to be beneficial for adolescents (Steinberg, 2001). Research has shown that an emotionally warm, accepting, and affectionate bond with parents is linked with psychosocial adjustment, whereas a rejecting, unsupportive relationship is related to maladjustment such as delinquency (Hoeve, Dubas, Eichelsheim, van der Laan, Smeenk, & Gerris, 2009; Khaleque & Rohner, 2002). As for the effects of parenting on adolescent dating, previous research has focused on how the quality of parent-child interactions can affect the quality of adolescent romantic relationships in mid/late adolescence as well as in emerging adulthood (e.g., Collins, Cooper, Albino, & Allard, 2002; Roisman, Booth-LaForce, Cauffman, & Spieker, 2009; Scharf & Mayseless, 2001). We focused on how the perception of one’s parents can affect adolescent dating status in early adolescence.

In order to specify the expected effect of parenting on early adolescents’ likelihood of dating, we used Interdependence theory’s assumptions (Kelley & Thibaut, 1978). Kelley and Thibaut’s (1978) work provides a useful framework for the examination of people’s choices to engage in or leave certain inter-personal relations. Interdependence theory postulates that an individual needs a certain relationship as long as it satisfies particular needs (the need for intimacy and companionship) and those needs cannot be met more efficiently outside the present relation. This theory has been applied rather successfully to understanding the dynamics of adult romantic relationships and their likelihood to persist over time (Dainton, 2000; Finkel, Rusbult, Kumashiro, & Hannon, 2002; Le & Agnew, 2003). Even though the affection and love which adolescents receive from a romantic relationship and from their bond with parents could be qualitatively different, research has shown that adolescents’ feeling of being accepted by their peers can buffer for perceived parental rejection both with respect to internalizing and externalizing problems (Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010).

Therefore, it appears that, at least to a certain extent, the two contexts can compensate for each other.

Based on these assumptions, we expected that *adolescents, who perceived their parents as accepting and emotionally warm, would be less likely to have experience with romantic relationships* due to the fact that their need for emotional warmth was satisfied within the family. At the same time, previous research has shown that if parental control of the adolescent's life is experienced as overprotective, intrusive and denies adequate autonomy, problem behavior increases (e.g., risky sexual behavior, Kotchick, Shaffer, Forehand, & Miller, 2001). These findings also tie into Moffitt's work (1993), where adolescent rule-breaking behaviors were shown to serve as means to establish one's "grown-up" status. Therefore, *perceived parental overprotection was expected to be associated with an increase in the likelihood of dating* as a mean to establish one's autonomy. Finally, *high parental rejection was expected to be associated with a higher probability of engagement in romantic relationships* due to a search for an alternative source of intimacy and companionship.

#### *Possible moderation effects*

The final step in our work was to investigate whether interactions exist between parenting practices and individual characteristics in the prediction of early adolescent experience with romantic relationships. As mentioned earlier, abundant work exists on main-effect models in which individual characteristics and parenting uniquely contribute to the explanation of adolescent social development, which includes dating. Additionally, however, conditional models of influence have been suggested according to which the precise nature of parental influence on development depends, in part, on the individual characteristics of the child, such as temperament and pubertal maturation (for overviews, see Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Sanson, Hemphill, & Smart, 2004). In other words, parental socialization plays different roles for adolescents with different temperaments (Gallagher, 2002). Empirical research has shown consistent support for those models. For example, in their study on the development of problem behavior, Sentse and colleagues (2009) found that when parents display low emotional warmth, the temperament characteristic of fearfulness could actually serve as a protective factor for adolescent externalizing problems. This recognition of the interactions between temperament and parenting has proven influential in the study of social development (Kochanska, Aksan, & Joy, 2007; Van Leeuwen, Mervielde, Braet, & Bosmans, 2004; Gallagher, 2002).

Alongside temperament, pubertal status has been identified as an important characteristic which can not only affect behavior (earlier initiation of sexual intercourse; Zimmer-Gembeck & Helfand, 2008) but also interact with parenting practices in influencing adolescent social development. For example, in their study of externalizing behaviors among African American children, Ge and colleagues (2002) found that early maturing adolescents affiliated less with deviant peers when they received supportive-involved parenting and more when exposed to harsh and inconsistent parenting behaviors. With respect to adolescent likelihood of dating, only one study has

investigated the interaction between parental behavior and individual characteristics. In their work, Friedlander and colleagues (2007) found that a decrease in parental monitoring was linked to a lower number of dating activities only for boys.

In line with the previously outlined findings about the moderating role of temperament in the relation between parenting and social development, we also investigated whether interactions exist between parenting practices and individual characteristics in the prediction of early adolescent romantic involvement. It was for example possible that children who perceived their parents as rejecting and had a heightened need for affiliation with others, would be even more likely to engage in romantic relationships than their low in affiliation peers. Therefore, we explored if individual characteristics moderated the effect of parenting on early adolescent likelihood of dating.

In summary, in this article we looked into the factors associated with the likelihood of dating in early adolescence. We considered both the main effects as well as possible interactions between temperament, pubertal maturation and parenting. We tested our hypotheses with the 'TRacking Adolescents' Individual Lives Survey (TRAILS), an ongoing prospective cohort study of Dutch youth. We controlled for relevant background characteristics such as composition of the parental household (i.e., divorced and single-parent households versus children living in intact families), socioeconomic status, sex, and age.

## **2.2 Method**

### *Sample*

The current study used the 'TRacking Adolescents' Individual Lives Survey (TRAILS), an ongoing prospective cohort study of Dutch youth focused on the development of mental (ill)health from childhood to adulthood. We used data from the first (T1; collected between March 2001 and July 2002) and second (T2; September 2003 to December 2004) waves.

Of all children and parents approached for participation in the TRAILS study, 76.0% gave their consent which resulted in an initial sample of 2,230 participants. Non-respondents at baseline were more likely to be boys, from lower socioeconomic background, and had worse school performance than respondents. The mean age at T1 was 11.09 years ( $SD = 0.55$ ; range 10 – 12 years old); 50.8% were girls; 10.6% of the children had at least one parent born in a non-Western country and 21.4% had two parents with a low educational level (elementary or lower tracks of secondary education). Of the 2,230 T1 participants, 96.4% ( $N = 2,149$ ) agreed to participate in the second wave. The mean age at T2 was 13.55 ( $SD = 0.54$ ; range 12 – 15 years old) and 51.2% were girls. Attrition analysis showed that at baseline as well as at T2, there were no indications of differences in psychopathology between participants and non-participants. However, non-participants at T2 were more likely to come from low socioeconomic status ( $t(2,186) = 4.65, p < .05$ , Cohen's  $d = .54$ ) and non-intact families ( $\chi^2(2,230) =$



8.24,  $p < .05$ , Cramer's  $\phi^2 = .06$ ). No differences in age or sex were found between T2 participants and non-participants. With respect to the predictors of interest for this study, non-participants at T2 differed from participants only on parent-reported maturation level at T1 ( $M = 2.11$  and  $M = 1.87$  respectively,  $t(2,227) = -2.41$ ,  $p < .05$ , Cohen's  $d = .29$ ). This difference between participants and non-participants should be considered when discussing the findings and their generalizability. A more detailed description of the TRAILS design, sampling procedures, data collection, measures, and attrition analyses can be found in De Winter et al. (2005) and Huisman et al. (2008).

### Measures

*Adolescent experience with dating.* The dependent variable, experience with romantic relationships, was assessed at T2 by asking the participants two questions: "Have you ended a romantic relationship in the past two years?" and "Have you started a romantic relationship in the past two years?" (for both, 0 = "no", 1 = "yes"). Adolescents who answered "yes" to either one of the two questions were coded as "daters".

*Preadolescent perception of parents' rearing behavior.* To assess the perception of actual parental rearing by the participants at T1, we used the Egna Minnen Beträffande Uppfostran (My Memories of Upbringing) for Children [EMBU-C] (Markus, Lindhout, Boer, Hoogendijk, & Arrindell, 2003). The original version of the EMBU-C contains 81 items. For this study, the shorter Markus et al. (2003) version was used while dropping the Favoring Subject factor due to a low internal consistency (Cronbach's  $\alpha$  below .60). The remaining three scales, Overprotection, Rejection and Emotional Warmth, have shown satisfactory test-retest stability over a 2 month period ( $r = .78$  or higher; Muris, Meesters, & Van Brakel, 2003). The *Overprotection* scale contained 12 items with a Cronbach's alpha of .70 for fathers and .71 for mothers. This scale measured the perceived parental concern and anxiousness for the child's safety (e.g., "Does your father/mother forbid you to do things that your classmates are allowed to do because he/she is afraid of something happening to you?") and parental intrusiveness (e.g., "When you have a secret, do your parents want to know it too?"). The *Rejection* scale contained 12 items with an internal consistency of .84 for fathers and .83 for mothers. It measured the extent of hostility, punishment (both physical and not), and blaming of the preadolescent (e.g., "Does your father/mother sometimes punish you even though you haven't done anything wrong?"). The final EMBU-C subscale measured parental *Emotional Warmth* (internal consistency of .91 for both father and mother). This scale tapped into the feeling of being unconditionally loved and praised by one's parents (e.g., "Does your father/mother make it clear that he/she loves you?", "Does your father/mother hug you?"). The preadolescents answered on a 4-point Likert scale where 1 was "no, never", 2 was "yes, sometimes", 3 was "yes, often" and 4 was "yes, always". Due to the high correlations between the scores for paternal and maternal overprotection ( $r = .81$ ,  $p < .01$ ), rejection ( $r = .68$ ,  $p < .01$ ), and warmth ( $r = .79$ ,  $p < .01$ ), the final scores for parenting practices were created by taking the mean of the two.



*Preadolescent temperament.* The parent version of the Early Adolescent Temperament Questionnaire – Revised (EATQ-R; Ellis, 2002; Putnam, Ellis, & Rothbart, 2001) was used at T1 to assess preadolescents' temperament. All parent-rated variables in TRAILS were rated by the one participating parent who in 95.6% of the cases was the mother. We used the parent version, because its factor structure was superior to that of the child version in our sample. The EATQ-R is a 62-item questionnaire based on the temperament model developed by Rothbart and colleagues (e.g., Putnam, Ellis, & Rothbart, 2001; Rothbart & Putnam, 2002). The four subscales which are used for the current study are High-Intensity Pleasure, Shyness, Effortful Control and Affiliation. More information on the composition and testing of the EATQ-R with the TRAILS sample can be found in Oldehinkel et al. (2004). The six-item *High-Intensity Pleasure* subscale assessed the pleasure derived from novel and high-intensity actions (e.g., "My child wouldn't be afraid to try a risky sport like deep sea diving"; Cronbach's  $\alpha = .77$ ). The four-item *Shyness* subscale assessed behavioral inhibition to novelty and challenge (e.g., "My child feels shy about meeting new people";  $\alpha = .84$ ). *Effortful Control* was composed of 11 items and tapped into the ability to voluntarily regulate behavior and attention (e.g., "My child finds it easy to really concentrate on a problem";  $\alpha = .86$ ). Finally, the six-item *Affiliation* scale assessed the desire for warmth and closeness with others, independent of shyness and extraversion (e.g., "My child finds it important to have close relationships with other people",  $\alpha = .66$ ). The parents rated how accurately these statements describe their child on a 5-point Likert scale where 1 was "almost never", 3 was "sometimes" and 5 was "almost always".

*Preadolescent pubertal maturation.* Stage of pubertal maturation was reported at T1 (i.e., at the mean age of 11.09) by the parents using schematic drawings of secondary sex characteristics corresponding to the five standard Tanner stages of pubertal maturation (Marshall & Tanner, 1969, 1970). Tanner stages are a widely accepted standard for assessing physical maturation, and have demonstrated good reliability, validity, and parent-child agreement (Dorn, Susman, Nottelmann, Inoff-Germain, & Chrousos, 1990). Based on the parent ratings of which (sex appropriate) drawing looks "most like my child", the participants were classified into five stages of puberty, in which stage 1 corresponded to infantile and stage 5 to complete puberty. For the 2.5% of the children who had missing data on this variable, the Tanner stage was imputed based on the available data for their age, weight and height (cf. Oldehinkel, Verhulst, & Ormel, 2010).

*Family structure.* Of the 2,230 children participating at T1, 8.4% had divorced parents and currently lived with one of the parents and a stepparent; another 12.9% had divorced parents but currently lived only with one of the parents; 2.4% had lived their entire lives with a single parent. In total, 76.3% of the children lived in intact families from birth to the beginning of data collection.

*Socioeconomic status (SES).* The family socio-economic status was assessed at T1, based on the educational and occupational levels of both parents and the family income level. Educational level was divided in 5 categories and occupational level was coded

according to the International Standard Classification for Occupations (Ganzeboom, De Graaf, & Treiman, 1992). Low family income was defined as a net income of less than € 1,135 per month, which approximately equals a welfare payment. Socioeconomic status was measured as the average of the five standardized items. The measurement captured 61.2% of the variance in the five items and had a Cronbach's  $\alpha$  of .84.

#### *Analytical strategy*

Differences in temperament, pubertal maturation, and parenting practices between daters and non-daters were examined by means of *t*-tests. The significant predictors (from the univariate analyses) were entered in a logistic regression with dating at T2 as the dependent variable. All independent continuous variables were standardized to  $M = 0$  and  $SD = 1$ . In order to ensure sufficient power for the interaction effects, separate logistic regression analyses were performed to test the interactions between adolescent characteristics and parenting practices. Subsequently, interactions that were significant in the separate analyses were included in the final model. To interpret the outcomes of the logistic regression, we used marginal effects (Borooah, 2001; Liao, 1994). The marginal effect for a dummy variable is the difference between belonging to the "1" category as compared to the "0" category. The marginal effect for a continuous variable is the added effect of that variable on the outcome with every point increase in the score of the continuous predictor. To facilitate interpretation of the significant interactions, we wrote out multiple equations using simple slope analysis (Aiken & West, 1991), with high and low levels of the predictors indicating one standard deviation above and below the mean, holding all other variables to the sample mean.

### **2.3 Results**

#### *Descriptive analyses*

Out of the 2,149 participants at T2, 902 (42%) reported experience with a romantic relationship in the preceding two years; 1,189 (55.3%) reported never having had a romantic partner. There were 58 (2.7%) children that did not provide an answer to the question. Girls were more likely to have experience with dating than boys ( $\chi^2(2,091) = 12.49, p < .01$ ). Those who had experienced parental divorce or were raised by a single parent were more likely to have experience with dating than adolescents who came from intact families ( $\chi^2(2,091) = 16.33, p < .01$ ). Dating was unrelated to age and family SES.

The means, standard deviations and *t*-test statistics for temperament, pubertal maturation, and parenting are displayed in Table 2.1, separately for dating and non-dating adolescents. Several significant differences between daters and non-daters emerged. With respect to temperament, daters scored higher on affiliation and high-intensity pleasure and lower on shyness than non-daters. Dating adolescents were also further along in their pubertal maturation at the first wave than non-dating adolescents. As for parenting, daters experienced more parental overprotection and rejection than non-dating adolescents. No significant differences were found for parental warmth.

**Table 2.1**

*Means (SD) of Temperament, Pubertal Development, and Parenting for Non-dating and Dating Adolescents*

	Non-daters	Daters	<i>t</i> -test (df)	Cohen's <i>d</i>
Affiliation	3.84 (0.58)	3.93 (0.54)	-3.45 (1,874)**	.16
Effortful control	3.25 (0.68)	3.20 (0.69)	1.81 (1,875)	.07
Shyness	2.56 (0.90)	2.43 (0.86)	3.35 (1,874)**	.15
High-intensity pleasure	3.26 (0.92)	3.39 (0.93)	-3.12 (1,870)**	.14
Pubertal development	1.81 (0.71)	1.94 (0.76)	-4.24 (2,088)**	.18
Parental	1.84 (0.37)	1.88 (0.38)	-2.10 (2,071)*	.11
Parental rejection	1.46 (0.28)	1.51 (0.34)	-3.20 (2,071)**	.16
Parental warmth	3.23 (0.49)	3.21 (0.50)	0.69 (2,072)	.04

Note: \* $p < .05$ . \*\* $p < .01$ .

#### *Logistic regression analysis*

The significant predictors from the univariate analyses were entered in a logistic regression with dating status at T2 as the dependent variable. We controlled for sex and family structure due to the differences found between daters and non-daters. Two significant interactions between individual characteristics and parenting emerged from the separate analyses (between parental rejection and high-intensity pleasure and between parental overprotection and shyness). Those were included in the final model. Table 2.2 displays the parameter estimates for the predictors in the final model. Separate models for boys and girls were not run because no significant interactions of temperament or parenting with sex were found.

Our model indicated that, when adolescents scored at the mean level of all other variables, there was a 42.9% chance that they would have experience with dating. With respect to background characteristics, being a boy significantly decreased those odds by 8.2% (with all other variables at their mean), whereas coming from a non-intact family significantly increased that likelihood by 8.5%. In other words, according to our model, the likelihood for girls from non-intact families to be dating was 51.4% and for boys from intact families, that likelihood was 34.7%. Scoring high on affiliation did not significantly increase the odds of being a dater. In contrast, high-intensity pleasure and shyness had the expected significant results. Our model indicated that if adolescents scored one standard deviation above the mean for high-intensity pleasure, their chance of being a dater increased by 2.8%; the same increase in their shyness scores resulted in a drop in the probability of dating by 3.0%. We also found the expected results for parent reported pubertal maturation – scoring one standard deviation above the mean on that variable resulted in an increase by 4.3% in the likelihood of dating. As for parenting

practices, only parental rejection had the expected effect by increasing the probability of dating by 4.4%.

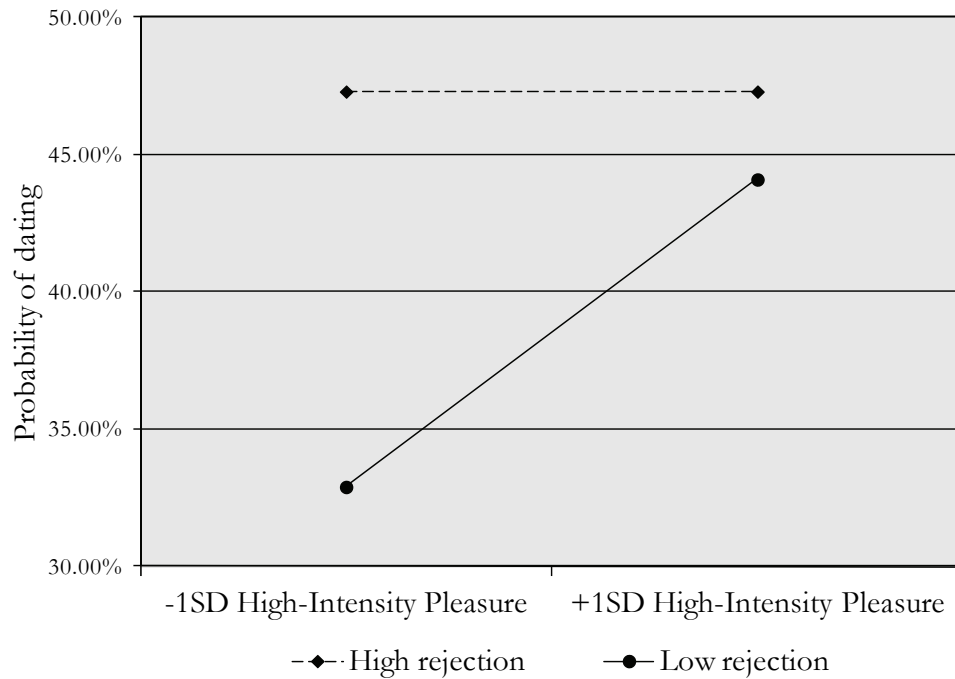
**Table 2.2**

*Parameter Estimates for the Logistic Regression Model Predicting the Effects of Temperament, Pubertal Development, and Parenting on the Likelihood of Dating at T2 (N = 1,854)*

	Wald $\chi^2$	B (SE)	Odds Ratio (95% CI)	Marginal Effects
Background characteristics				
Being a boy	10.77**	-0.34 (.10)	0.71 (0.58 – 0.87)	-8.2 %
Family break-up	9.02**	0.34 (.11)	1.41 (1.13 – 1.76)	8.5 %
Adolescent characteristics				
Affiliation	2.56	0.08 (.05)	1.08 (0.98 – 1.20)	2.0 %
Shyness	5.38*	-0.12 (.05)	0.88 (0.80 – 0.98)	-3.0 %
High-intensity pleasure	4.85*	0.11 (.05)	1.12 (1.01 – 1.24)	2.8 %
Pubertal development	12.62**	0.18 (.05)	1.19 (1.08 – 1.31)	4.3 %
Parenting practices				
Parental overprotection	0.16	0.02 (.05)	1.02 (0.92 – 1.14)	1.0 %
Parental rejection	11.45**	0.18 (.05)	1.20 (1.08 – 1.33)	4.4 %
Interactions				
High-intensity pleasure by parental rejection	4.97*	-0.12 (.05)	0.89 (0.80 - 0.99)	-2.8 %
Shyness by parental overprotection	3.71	0.09 (.05)	1.10 (1.00 – 1.21)	2.3 %

Note: \* $p < .05$ . \*\* $p < .01$ ;  $\chi^2$  of full model ( $df = 10$ ) = 72.54 ( $p < .01$ ).

Of the two significant interactions which appeared in the separate analyses, only the one between parental rejection and high-intensity pleasure remained significant in the final model. We used Aiken and West's (1991) guidelines in order to clarify the meaning of this interaction. We concluded that when parental rejection is high, high-intensity pleasure does not make a difference in predicting the likelihood of dating. However, when parental rejection is low (one standard deviation below the mean), the difference in the likelihood of dating between adolescents with a low (-1 SD) and high (+1 SD) level of high-intensity pleasure is 11.2% (with all other variables at their mean). The interaction is plotted in Figure 2.1. In terms of model improvement, every consecutive step of the analysis significantly improved the model fit (final model:  $\chi^2(10) = 72.54$ ,  $p < .01$ ).



**Figure 2.1** *Temperament by parental rejection interaction.*

## 2.4 Discussion

In the current study we focused on the effects of several individual characteristics and perception of parenting practices in preadolescence on the probability of dating in early adolescence. Previous work has suggested that whereas adolescent dating cannot be seen as a problem behavior in and of itself, the early engagement in such bonds can be associated with negative outcomes and that research into the determinants of those romantic relationships is necessary (e.g., Zimmer-Gembeck, Siebenbruner, & Collins, 2001). Therefore, our main aim was to clarify who those dating early adolescents were in terms of their temperament, level of pubertal maturation, and perception of parenting behaviors.

We found that early adolescents with dating experience scored higher on preadolescent pubertal maturation, need for high-intensity pleasure, lower on shyness, and higher on perceived parental rejection. Furthermore, when preadolescents reported high levels of parental rejection, the need for high-intensity pleasure no longer had a significant effect on the likelihood of dating.

In line with previous work, our analyses revealed that girls as well as adolescents from non-intact families were more likely to date than boys and youth from intact families respectively (Cavanagh, Crissey, & Raley, 2008). Our findings were in line with most of our expectations about the effects of individual characteristics on the likelihood of having dating experience. We found that when youth were rated as more open and likely to approach novel situations in preadolescence (measured as higher need for high-intensity pleasure and lower shyness), they were also more likely to report romantic experience in early adolescence. These uninhibited adolescents have previously been

found to have higher success with peer relations (e.g., Sanson, Hemphill, & Smart, 2004). Therefore, it did not come as a surprise that they were also more likely to have experience with dating. It is within the context of the peer group that adolescents meet and get closer with potential romantic partners for the first time (Connolly, Craig, Goldberg, & Pepler, 2004). Additionally, in line with previous research (Friedlander, Connolly, Pepler, & Craig, 2007), we found that a more advanced pubertal status in preadolescence was associated with higher odds of dating in early adolescence. Whereas earlier studies have pointed out that the often used self-reported measures of pubertal maturation might be biased due to overestimation (Friedlander et al., 2007), we demonstrated that when using the possibly more conservative parent assessment of adolescent pubertal maturation, it rendered similar findings.

Contrary to our expectations, we did not find the anticipated effects of low-effortful control and heightened need for affiliation with others on early adolescent likelihood of dating. It is possible that this lack of significant findings was due to the gradually increasing amount of dating from early adolescence on (Carver, Joyner, & Udry, 2003). In other words, from early adolescence on, youth become substantially more likely to show interest in and engage in dating. Therefore, it could be that the factors that can additionally boost the likelihood of having experience with romantic relationships are limited only to ones that particularly predispose adolescents to dating. Being shy could hinder the adolescent from approaching potential partners whereas scoring lower on effortful control or higher on the need for affiliation with others does not necessarily affect one's chances of finding a partner.

In terms of parenting practices, we found a main effect only for perceived parental rejection. In agreement with the outlined assumptions of Kelley and Thibaut's (1978) work, we found that youth who perceived their parents as rejecting were more likely to have experience with dating in early adolescence. Additionally, we found one significant interaction between temperament and parenting practices. Whereas the main effects of both parental rejection and high-intensity pleasure indicated an increase in the odds of dating, their interaction had a negative effect on that probability. In other words, when preadolescents perceived their parents as rejecting, they were more likely to have experience with dating in early adolescence, irrespective of their need for high-intensity pleasure. However, when the parents were rated as low in rejection, high intensity pleasure boosted the likelihood of having experience with romantic relationships.

Our finding about the moderating role of high-intensity pleasure on the relation between child-perceived parental rejection and adolescent dating status could be due to the so called "negativity bias" (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001) which postulates that negative entities are stronger than equivalent positive entities. Research has shown that people are more attentive to and influenced by negative rather than positive experiences and information (Baumeister et al. 2001; Rozin & Royzman, 2001). Our measure of high-intensity pleasure tapped into the preadolescent's openness to novel and stimulating experiences (e.g., "My child likes it when something exciting or new happens at school"). It is possible that when the



adolescents were deprived of a warm and nurturing environment at home, their need to compensate for it was already so strong that it no longer mattered whether they were open to new experiences in determining whether or not they would establish romantic relationships. Previous work has demonstrated that the experience of parental rejection is the most consistent predictor of adolescent problem behavior, irrespective of adolescent temperament (Sentse, Veenstra, Lindenberg, Verhulst, & Ormel, 2009). This particular interplay between temperament and parenting, however, remains particularly puzzling and subsequent studies should help determine whether this is a consistent finding.

The results of this study suggested that dating in early adolescence could possibly function as a mean to establish one's "grown-up" status. In our study, we found that if preadolescents were more advanced in their physical maturation, they were more likely to get report experience with romantic relationships in early adolescence. Moffitt's work (1993) on adolescent externalizing behavior suggests that for some adolescents, rule-breaking behavior is a mean to establish one's maturity in an age when the discrepancy between one's physiological maturation and limited social rights and freedoms is especially palpable. However, parental overprotection did not contribute to the explanation of adolescent engagement in dating neither independently nor in interaction with pubertal status which was expected based on Moffitt's (1993) work. Therefore, an alternative explanation could be that adolescents, who are more advanced in their physical maturation than their peers and want to establish their autonomy, keep different company. The association with older, more mature adolescents might be the driving force behind the increased likelihood of dating. Due to the fact that we did not consider the peer context in this investigation, it is beyond the scope of the current work to unravel the mechanism behind this finding.

At the same time, our findings indicated that early adolescent romantic relationships could serve a 'compensatory' function. The results showed that the perception of one's parents as rejecting was associated with higher odds of having dating experience (even irrespective of one's temperament characteristics such as the need for high-intensity pleasure). In agreement with Kelley and Thibaut's Interdependence theory (1978), it appeared that early adolescents were more likely to engage in romantic bonds when their fundamental need for belongingness and intimacy (Baumeister & Leary, 1995) was not met within the family. Our finding was also in line with work which has demonstrated the compensating role which peer acceptance played when the adolescents perceived their parents as rejecting in the prediction of problem behaviors (Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010). It appeared that even though romantic partners and parents could be sources of different kinds of intimacy and companionship, when adolescents were deprived of these at home, they searched for alternatives elsewhere. Interestingly, the hypothesized reverse connection was not found – we did not find that preadolescents who perceived their parents as warm and accepting were less likely to date in early adolescence. This could be due to the previously mentioned 'negativity bias' (Rozin & Royzman, 2001). Rejection within the family could be felt much stronger and thus, initiated compensatory mechanisms whereas the presence of

warmth and unconditional acceptance were taken for granted and did not affect the likelihood of dating in early adolescence.

A few limitations of this study should be mentioned. It is likely that multiple other factors could play a role in early adolescents' likelihood of having experience with dating (e.g., peers' involvement in romantic relationships, popularity status, physical attractiveness). As we mentioned previously, taking the peer context into account could help clarify further some of the effects that we found. Yet, in the current study we chose to focus only on a few relevant individual and parenting predictors which previous work has overlooked with respect to adolescent dating. Our results point to a few possible mechanisms underlying early adolescents' choice to initiate romantic relations. Another weakness of the current study is that we were unable to control for dating behaviors at the first wave of data collection. Whereas the mean age at the second wave allows us to investigate adolescents' earliest experiences with romantic relationships, future research should also take into account preceding dating status. Another point is that all of our measures were based on questionnaires. It is likely that in relation to parenting behaviors in particular, observational studies could be more accurate. However, keeping in mind the large scale of our study ( $N = 2,149$ ) this was essentially impossible. Furthermore, we believe that it is the adolescent's perception of the parents that truly matters. In the case of rejection for example, if the adolescents themselves do not feel rejected by their parents, it is unlikely that any compensatory behavior will be initiated. An additional limitation of our work is the fact that we took the mean of perceived paternal and maternal parenting behaviors instead of investigating their effects on early adolescent dating separately. Previous work has suggested that for example, maternal overprotection is experienced as rather 'normative' whereas paternal overprotection can have negative effects on adolescent adjustment (Sentse, 2010). However, in our work, the perceptions of paternal and maternal parenting behaviors were highly correlated. Separately run univariate analyses showed that the two measures were similarly associated with early adolescent dating. Thus, we do not think that what we find is a 'masking effect' of one measure of parental overprotection by the other.

Despite its limitations, this study makes an important contribution to identifying who is likely to engage in romantic relationships in early adolescence. In light of our findings, one can see why early adolescent dating can be at times associated with maladjustment. Previous research has shown that youth who score high on the broad temperament dimension of surgency, are more advanced in their pubertal maturation and have negative experiences with their parents, are also more likely to get involved in rule-breaking and risk-taking behaviors (e.g., French & Dishion, 2003; Oldehinkel, Hartman, de Winter, Veenstra, & Ormel, 2004, Sentse, 2010). Future research should therefore, investigate if romantic relationships in early adolescence are indeed related to negative outcomes even after controlling for *who* those dating early adolescents are with respect to individual characteristics and experiences within the family.





# Chapter 3

## The Initiation of Dating in Adolescence: The Effect of Parental Divorce<sup>\*</sup>

This chapter focused on the effect of parental divorce on the time it took adolescents to initiate their first romantic relationships. To examine this effect, individual differences in temperament and pubertal development, and the age of the adolescent at the time of divorce were taken into account. The hypotheses were tested using event history analysis with a representative sample of 1,487 Dutch adolescents. The results indicated that marital dissolution sped up the transition to first dating relationship, but only when it was experienced in early adolescence (between the ages of 11 and 13). The results are discussed in light of findings that stressors which occur during transitional periods, such as the entry into adolescence, can have stronger effects on adjustment than if they are experienced at another time.

---

\* This chapter is based on:

Ivanova, K., Mills, M., & Veenstra, R., (2011). The initiation of dating in adolescence: The effect of parental divorce. The TRAILS study. *Journal of Research on Adolescence*, 21, 769 – 775.

### 3 The Initiation of Dating in Adolescence: The Effect of Parental Divorce

#### 3.1 Introduction

The past decade has seen a rediscovery of Sullivan's (1953) notion that the establishment of romantic relationships during adolescence is one of the most important developmental tasks of that age (Furman & Shaffer, 2003). However, as Cavanagh, Crissey, and Raley (2008: 698) argued, "in this growing area of research, the antecedents of adolescent romance remain poorly understood." Researchers have been unable to differentiate between first and higher order relationships and have focused rather on the likelihood of having experience with dating in general. Furthermore, in the few cases when familial effects on adolescent likelihood of dating have been considered, researchers have not properly controlled for the relevant individual characteristics which correlate both with the parental likelihood of getting a divorce and with the adolescent propensity to date. Without controlling for these individual aspects, researchers cannot be certain if the effects are indeed due to the marital transitions or are the result of confounding factors. Furthermore, the analytical methods that have been used thus far, have not taken into account individuals who have not yet experienced the event of interest by the time of the interview. This shortcoming in particular, could have led to underestimating the effects of the predictors of interest.

In this article, we will focus specifically on factors affecting adolescent *initiation* of dating. Our conceptual framework for examining adolescent transition to dating is derived from a general life course perspective of human development, assuming that no person develops in isolation (Elder, 1985; Elder & Shanahan, 2006). Even though the concept of "linked lives" often refers to reciprocal influences between individuals, in our work, we are particularly interested in the effect of parental divorce on the transition to adolescents' first romantic relationship and whether the effect is moderated by the age of the adolescent at the time of the marriage dissolution. Furthermore, we will investigate whether the proposed effect still holds when adolescent individual characteristics are taken into account. We make use of data from event-history calendars filled out by the participants in a prospective cohort study among adolescents in the general Dutch population, the TRacking Adolescents' Individual Lives Survey (TRAILS). By utilizing event history analysis (Blossfeld, Golsch, & Rohwer, 2007; Mills, 2011), we are able to properly study the timing of the first romantic relationship in relation to the covariates of interest.

#### *The determinants of adolescent romantic relationships*

Increasing interest in adolescent romantic relationships has been driven by the understanding that those intimate bonds can have substantial and enduring effects on overall well-being (Collins, 2003). In adolescence, romantic relationships have been associated with both negative (e.g., higher levels of depression, Carver, Joyner, & Udry, 2003; higher drug use, Kobus, 2003; lower school achievement, Quatman, Sampson,

Robinson, & Watson, 2001) as well as positive outcomes (e.g., higher satisfaction with life, Overbeek, Vollebergh, Engels, & Meeus, 2003; higher social competence and feelings of self-worth, Connolly & Konarski, 1994; Kuttler, LaGreca, & Prinstein, 1999). Previous work has suggested that the mixed nature of the findings could be attributed to the highly diverse timing of these romantic relations (Neemann, Hubbard, & Masten, 1995) and that in order to advance the understanding of adolescent dating behavior, research into the determinants of adolescent romantic relationships is necessary (Zimmer-Gembeck, Siebenbruner, Collins, 2004).

Most research into the factors influencing the likelihood of having experience with romantic relationships in adolescence, has focused either on different aspects of the peer group or individual characteristics associated with risk-prone behavior. Researchers have shown that changes in the gender composition, behaviors, and one's status within the peer group are associated with dating (e.g., Connolly, Furman, & Konarski, 2000; Franzoi, Davis, & Vasquez-Suson, 1994; Friedlander, Connolly, Pepler, & Craig, 2007; Miller, Lansford, Costanzo, Malone, Golonka, Killea-Jones, 2009). Also in line with these findings, research has looked into the effect of adolescent social skills and competencies. Youth who score higher on sociability as toddlers have been shown to report higher friendship quality in adolescence and in turn, a lower age at first romantic relationship (Zimmer-Gembeck, Siebenbruner, Collins, 2004). Also in terms of the effects of individual characteristics on the beginning of dating, studies have shown that many of the same factors which affect adolescent engagement in extroversion, low in inhibition behavior are also associated with an increased likelihood of dating (e.g., pubertal maturation, Friedlander, Connolly, Pepler, & Craig, 2007; impulsivity, Zimmer-Gembeck, Siebenbruner, Collins, 2004).

Even though the currently existing literature has given an indication of some of the individual characteristics of dating adolescents and who their peers are, researchers have overlooked the effect which one's family can have on the propensity to date. Although it is true that in adolescence peers become increasingly more influential for youth psychosocial adjustment, the family remains of high importance for adolescent functioning. As life course researchers assert, the substantial transitions in the lives of adolescents are in part shaped by the events and transitions in their parents' lives (Elder, 1985; Elder & Shanahan, 2006).

#### *Parental divorce and adolescent romantic relationships*

The importance of adolescent experiences within their family has been well recognized in investigations of youth's dating relationships. For example, a high quality relationship with one's parents has been found to be positively associated with the quality of adolescent romantic relationships (e.g., Roisman, Booth-LaForce, Cauffman, & Spieker, 2009). On the other hand, unskilled parenting has been linked to extreme behavioral outcomes such as inter-partner violence among adolescents (e.g., Capaldi & Clark, 1998). Due to the importance of the family context for adolescent well-being, substantial research has also been carried out into how stressful life transitions in the

lives of one's parents can affect youth's adjustment (for an overview, see Amato 2000). Studies have shown that divorce and conflict among non co-residential parents are associated with worse global well-being (e.g., Demo & Acock, 1996), truancy (e.g., Veenstra, Lindenberg, Tinga, & Ormel, 2010), and depressive symptoms among girls (e.g., Oldehinkel, Ormel, Veenstra, De Winter, & Verhulst, 2008). Furthermore, growing up in a context of divorced parents or unstable parental relationships has been shown to impact children's own adult union formation and dissolution patterns (e.g., Martin, Mills, LeBourdais, 2005; Wolfinger, 2005, 2011). Various mechanisms have been implicated for this relationship. Some researchers have focused on how stress generated by the divorce can affect children's experience of the parental home as a nurturing environment (Booth, Brinkerhoff, & White, 1984) and serve as a "push" to look elsewhere for substitutes of the lacking emotional warmth (Glenn & Kramer, 1987). Indeed, research has shown that children of divorced parents are more likely to initiate sexual activity and marry earlier (e.g., Capaldi, Crosby, Stoolmiller, 1996; Thornton, 1991). Other researchers have looked into the effects of socialization processes. Because single parents are themselves likely to engage in romantic relationships, their behavior could model their children's openness to dating and sexuality in general (Whitbeck, Simons, & Kao, 1994). In addition, the transition from a two- to a single-parent family has been associated with lower levels of parental monitoring and supervision (Demo & Acock, 1996). Parental knowledge of adolescents' whereabouts and activities has been found to be lower for adolescents who engage in high-risk sexual behaviors than for low-risk takers or abstainers (Siebenbruner, Zimmer-Gembeck, Egeland, 2007) and low parental monitoring has been associated with an increased likelihood of having experience with dating (Friedlander, Connolly, Pepler, & Craig, 2007).

Due to the societal repercussions of early onset of sexual activity (e.g., teenage pregnancy, higher rates of sexually transmitted diseases), researchers have focused primarily on how changes in the composition of the parental household affect adolescent sexuality. There has been less research into the impact of marital transitions on adolescent involvement in *romantic* relationships. One exception is a study by Cavanagh, Crissey and Raley (2008), which demonstrated that instability in the composition of the parental household was associated with higher likelihood of being currently involved in a romantic relationship and for those with dating experience, with the number of relationships. However, in their work the researchers did not control for the adolescents' earlier dating status. As Bentler and Speckart (1979) proposed in their model of the relationship between attitudes and behavior, a substantial part of behavioral variability is actually predicted by past behavior. This point is confirmed by those researchers who have controlled for previous dating experience – it is by far the strongest predictor of current romantic involvement (e.g., Friedlander, Connolly, Pepler, & Craig, 2007; Furman, Low, & Ho, 2009). In the cases when the focus is not explicitly on the first relationship in adolescence, controlling for past dating episodes is essential in order to understand the true impact of the factors of interest.

Additionally, Cavanagh and colleagues did not control for individual level factors which are correlated both with the parents' likelihood of getting a divorce and with the adolescents' higher propensity to initiate dating. Tapping into this issue is a recent work by Mendle and colleagues (2009) which examined the well established relationship between father absence and the earlier initiation of sexual activity. Competing theoretical perspectives accredit this association to different environmental mechanisms such as parental modeling of non-marital sexual behavior and reduced parental monitoring in single-headed households. In their work, however, Mendle and colleagues showed that this association could be the result of confounded risks which correlated both with the likelihood of growing up in a father-absent household and with early sexual behavior. The authors suggested that because early sexual activity is viewed as a manifestation of a more general trend of antisocial and risky behavior, the same genetic factors that affect earlier sexual activity, could be associated with heightened impulsivity and lack of self-control which increase the likelihood of father absence. Thus, families with fathers who are more likely to leave the household might also rear children with the genetic propensity of early sexual activity. Additionally, in a study by Cramer (1993) it was found that divorced and separated women are more extroverted than their still married counterparts. The developmental precursors of extraversion in childhood have been found to be higher impulsivity and lower inhibitory control (for an overview, see Rothbart, Ahadi, & Evans, 2000) and as previously mentioned, earlier work has found that more impulsive adolescents are also more likely to date (Zimmer-Gembeck, Siebenbruner, Collins, 2004). Given that strong evidence exists of genetic influences on temperament and personality (McGue, Bacon, & Lykken, 1993; Saudino, 2005), it could be that divorce-prone parents have offspring who are more likely to engage in romantic relationships.

#### *The present study*

In line with previous work on the impact of family instability on the likelihood of being a dater (Cavanagh, Crissey and Raley, 2008) and of family transitions on the age of first sexual intercourse (Capaldi, Crosby, & Stoolmiller, 1996), we hypothesize that for the adolescents who experience a parental divorce, the time to first romantic relationship will be shorter than for their peers from intact families. In this study, we extend previous research by making use of event history calendars (Caspi et al., 1996; Lyketsos, Nestadt, Cwi, Heithoff, & Eaton, 1994) filled out by participants in a large, prospective study among Dutch youth which includes data on biological, psychological, and sociological topics. This enables us to focus on how the time to adolescents' first romantic relationship is affected by a parental divorce while also including the information of the participants who have not yet dated. Furthermore, in line with the temperament model developed by Rothbart and colleagues (2000), we will control for certain individual differences in reactivity and self-regulation by accounting for adolescents' orientation to novelty, negative affectivity, the ability to regulate behavior, and the desire for closeness with others. These factors have previously been linked with extroversive, low in inhibition behaviors such as aggression and rule-breaking (e.g., Oldehinkel, Hartman, de

Winter, Veenstra, & Ormel, 2004). We will also account for the biological development of the adolescent due to its consistently reported link with the earlier initiation of sexual activity (e.g. Capaldi, Crosby, & Stoolmiller, 1996).

Furthermore, we will consider whether the effect of parental divorce differs by the age of the adolescent at the time of the event. It has been shown that stressors which are experienced during transitional periods such as the entry into adolescence, can have stronger effects on adjustment than if they are experienced at another time (for an overview, see Graber & Brooks-Gunn, 1996). Therefore, we hypothesize that adolescent initiation of dating will be most affected by parental divorce when it happened in early adolescence due to the multiple other transitions that the youth faces at that time (e.g., entry into adolescence, move to secondary school).

### **3.2 Method**

#### *Participants and procedure*

Data were gathered from participants in the 'TRacking Adolescents' Individual Lives Survey (TRAILS), a prospective cohort study among adolescents in the general Dutch population. TRAILS investigates the development of mental and physical health from preadolescence into adulthood (de Winter et al., 2005). The study covers biological, psychological and sociological topics and collects data from multiple informants. Participants come from five municipalities, including both urban and rural areas, in the North of the Netherlands. Of all children and parents approached for participation in the TRAILS study, 76.0% gave their consent which resulted in an initial sample of 2,230 participants. Non-respondents at baseline were more likely to be boys, came from lower socioeconomic background, and had worse school performance than respondents. Thus far, three data collection waves have been completed: T1 (2001-2002) when the adolescents were at the mean age of 11.09 years ( $SD = 0.55$ ), T2 (2003-2004) when the participants were at the mean age of 13.55 ( $SD = 0.54$ ) and T3 (2005- 2007) when the adolescents were at the mean age of 16.3 ( $SD = 0.73$ ). Participants will be followed until (at least) the age of 24. A more detailed description of the 'TRAILS' design, sampling procedures, data collection, measures, and attrition analyses can be found in De Winter et al. (2005) and Huisman et al. (2008).

This paper used data collected during the Event History Calendar (EHC) interviews which took place during the third wave of data collection. A total of 1,513 adolescents filled out the Event History Calendars (67.85% of the T1 sample). Compared to participants, nonparticipants were more likely to be boys ( $\chi^2 (2,230) = 31.58, p < .05$ , Cramer's  $\phi^2 = .12$ ), came from families with lower socioeconomic status ( $t (2,186) = -9.39, p < .05$ , Cohen's  $d = .43$ ), and were older ( $t (2,228) = 2.40, p < .05$ , Cohen's  $d = .11$ ). These factors should be kept in mind when considering the findings.

The EHC interviews took place in the participants' homes and took approximately 45 minutes. During the talk, the adolescents were asked to recall whether certain events, specified by the interviewer, took place in the previous five years (i.e., since the beginning



of the TRAILS data collection). If the adolescents answered positively to a certain question (e.g., “Have your parents divorced in this five-year period?”, “Have you started a romantic relationship in this five-year period?”), they were then asked to mark the months in which the event started and ended on a calendar provided by the interviewer. If the participant could not recall the precise month, the interviewers were instructed to facilitate the recollection by asking whether the event took place before or after another significant events (e.g., “Did your relationship start before or after you moved to your new house?”). If an event took place before the start of the EHC, the interviewer noted down only that the adolescent had experienced it without the precise date.

Given that we were interested in the effect which divorce could have on the *initiation* of dating in adolescence, we had to exclude 26 adolescents of whom 25 reported that their first relationship began before the start of observations and one who could not remember the precise date of first relationship. This resulted in a final sample of 1,487 adolescents of which 667 were boys (44.9%) and 820 were girls (55.1%). The average age of the participants at the time of the interview was 16.25 ( $SD = 0.67$ , range 14.80 to 18.13) and the average age at the start of observation was 11.30 ( $SD = 0.65$ , range 9.87 to 13.13). The sample consisted of 1,363 (91.7%) ethnic Dutch and 124 (8.3%) non-ethnic Dutch adolescents. Due to the small subsample of non-Dutch adolescents, ethnic differences were not considered in the analyses.

### *Measures*

*Adolescent initiation of dating.* During the interviews, adolescents were asked to report the month when their first romantic relationship started. We used these data (reported at the mean age of 16.25) as the definition of initiation of dating.

*Parental divorce.* The experience of a parental divorce and its date were reported by the adolescent during the interviews. Three dummy variables were then created with 0 denoting “no parental divorce before first relationship” and 1 being either “divorce happened during childhood, before the age of 11”, or “divorce happened in early adolescence, from age 11 until 13”, or “divorce happened in mid or late adolescence, from age 13 onwards”. Because we were interested in how the experience of a parental divorce can influence the *initiation* of dating, we focused only on those divorces that happened before the first reported relationship. In other words, if a divorce happened after the initiation of dating, we coded it as part of the 0 category (“no parental divorce before first relationship”).

*Adolescent pubertal development.* Stage of pubertal development was reported at the first wave of TRAILS (at the mean age of 11.09) by the parents using schematic drawings of secondary sex characteristics corresponding to the five standard Tanner stages of pubertal development (Marshall & Tanner, 1969, 1970). Tanner stages are a widely accepted standard for assessing physical development, and have demonstrated good reliability, validity, and parent-child agreement (Dorn, Susman, Nottelmann, Inoff-Germain, & Chrousos, 1990). Based on the parent ratings of which (gender appropriate) drawing looks “most like my child”, the participants were classified into five stages of



puberty, in which stage 1 corresponded to infantile and stage 5 to complete puberty. For the 2.5% of the children who had missing data on this variable, the Tanner stage was imputed based on the available data for their age, weight and height (Oldehinkel, Verhulst, & Ormel, 2010).

*Adolescent temperament.* Temperament was assessed by the parent and the child version of the short form of the Early Adolescent Temperament Questionnaire - Revised (EATQ-R; Ellis, 2002). We used the parent version, because its factor structure was superior to that of the child version in our sample. The EATQ-R is a 62-item questionnaire based on the temperament model developed by Rothbart and colleagues (e.g., Putnam, Ellis, & Rothbart, 2001; Rothbart & Putnam, 2002). Six subscales were used for the current study. The six-item *High-Intensity Pleasure* subscale assessed the pleasure derived from novel and high-intensity actions (e.g., “My child wouldn’t be afraid to try a risky sport like deep sea diving”; Cronbach’s  $\alpha = .77$ ). The four-item *Shyness* subscale assessed behavioral inhibition to novelty and challenge (e.g., “My child feels shy about meeting new people”;  $\alpha = .84$ ). The 5-item *Fear* subscale assessed the worrying about anticipation of distress (e.g., “My child is afraid of the idea of me dying or leaving him/her”,  $\alpha = .63$ ). *Frustration* was a 5-item scale focusing on the negative affect related to interruption of ongoing tasks (e.g., “My child gets irritated when s/he has to stop doing something s/he is enjoying,  $\alpha = .74$ ). *Effortful Control* was composed of 11 items and tapped into the ability to voluntarily regulate behavior and attention (e.g., “My child finds it easy to really concentrate on a problem”;  $\alpha = .86$ ). Finally, the six-item *Affiliation* scale assessed the desire for warmth and closeness with others, independent of shyness and extraversion (e.g., “My child finds it important to have close relationships with other people”,  $\alpha = .66$ ). The parent rated how accurately these statements describe their child on a 5 point Likert scale where 1 was “almost never”, 3 was “sometimes” and 5 was “almost always”. Factor analysis indicated that High-Intensity Pleasure and (low) Shyness were indicators of the broad dimension of Surgency; Frustration and Fear were indicators of Negative Affectivity; in the cases of Effortful Control and Affiliation, the scales and broad temperament dimensions were similar. More information about the composition and testing of the EATQ-R with the TRAILS sample can be found in Oldehinkel, Hartman, De Winter, Veenstra, and Ormel (2004).

*Socioeconomic status (SES).* The family socio-economic status was assessed at the first wave of TRAILS, based on the educational and occupational levels of both parents and the family income level. Educational level was divided in 5 categories and occupational level was coded according to the International Standard Classification for Occupations (Ganzeboom, De Graaf, & Treiman, 1992). Socioeconomic status was measured as the average of the five items which were standardized to  $M = 0$  and  $SD = 1$ . The measurement captured 61.2% of the variance in the items and had a Cronbach’s  $\alpha$  of .84.

*Adolescent gender and age at first observation.* Gender and date of birth of the respondent was based on municipality records received at the start of data collection. Age at first

observation was calculated based on the year of first observation (i.e., the interview date minus the five year observation window) and the reported date of birth.

### *Analytical strategy*

We analyzed the data using event history analysis (Blossfeld, Golsch, & Rohwer, 2007; Mills, 2011). Event history analysis is a useful technique to examine the timing of an event and assess the relationship of the time to an event to explanatory variables. It differs from other regression approaches in that it has different likelihood estimators and adds information about timing to events and the ability to include information about individuals who have not experienced the event by the time of the interview (i.e., right-censored). In these models, the dependent variable is the hazard rate, which is the conditional probability that an event occurs at a particular time interval ( $\lambda$ ).

We first estimate nonparametric Kaplan Meier survival curves followed by multivariate estimates using a Cox (1972) semi-parametric regression model. It was chosen due to the fact that it is a highly robust and flexible model that makes no assumption about the shape of the hazard. When interpreting the results, we focus on the hazard ratios, which is the exponent of the beta coefficient in the models (i.e.,  $\exp(B)$ ). The hazard ratios show the predicted changes in the hazard for a unit increase in the predictor. If the hazard ratio is greater than 1, then there is an increased hazard of the event occurring (the time to first relationship is shorter). If the hazard ratio is smaller than 1, there is a decreased hazard of the event occurring (the time to first relationship is longer). For covariates that are represented by dummy variables, hazard ratios smaller than 1 suggest that adolescents in that particular category have a hazard rate of initiating dating that is lower than the baseline (omitted) category, and that their duration to first romantic relationship tends to be longer. The hazard-ratio for a continuous covariate is the amount of change in the hazard of the event occurring (dating) with a unit increase in the covariate (Mills, 2011).

In order to facilitate interpretation, all independent continuous variables (age at first observation, Tanner stage, and adolescent temperament characteristics) were standardized to  $M = 0$  and  $SD = 1$ . Missing values were imputed using the multivariate imputation method ICE in Stata 10.0 (see Royston, 2007). We controlled for the family's socio-economic status, the participants' gender and age at the time of first observation.

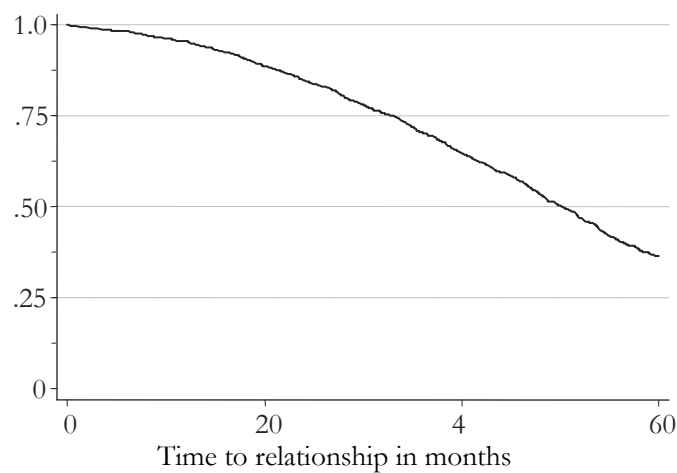
### **3.3 Results**

A total of 934 adolescents (62.8% of the EHC sample) reported having had at least one romantic relationship within the observation period. Girls were more likely than boys to report first relationship in the past five years,  $\chi^2(1, N = 1,487) = 18.58, p < .01$ . The mean age at first reported relationship was 14.34 years ( $SD = 1.31$ , range 10.80 to 17.86).

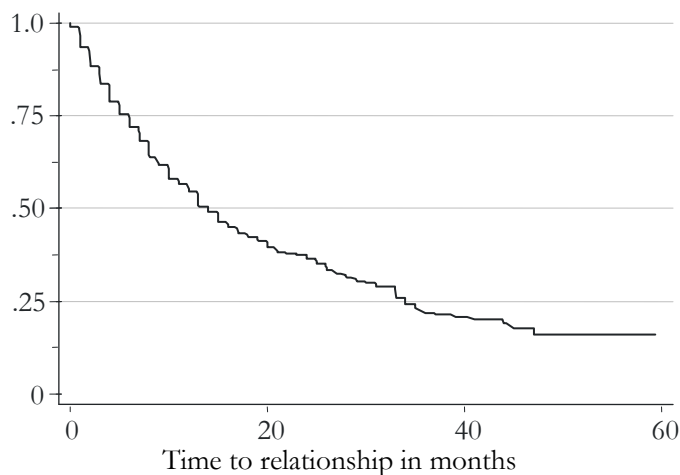
The number of parental divorces before first romantic relationship was 322 (21.7% of the EHC sample). Of those, 262 happened during childhood (before the age of 11), 30 happened in early adolescence (between the ages of 11 and 13), and another 30 happened

during mid and late adolescence (after the age of 13). No gender differences were found in the likelihood that the adolescent had experienced a parental divorce.

We first checked whether our decision to focus only on first romantic relationship was justified. Figures 3.1a and 3.1b display the Kaplan-Meier (Kaplan & Meier, 1958) survival estimates for time to first and second romantic relationship, respectively. The  $y$ -axis displays the proportion of adolescents who “survive” (do not start dating) at any given time (displayed on the  $x$ -axis). As illustrated in Figures 3.1a and 3.1b, adolescents took much longer to initiate their first romantic relationship than their second. The transition to first dating episode appeared to be a distinct process compared to the transition to subsequent relationships, making it important to focus on only the first romantic relationship.



**Figure 3.1a** *Survival estimates for time to first romantic relationship.*



**Figure 3.1b** *Survival estimates for time to first romantic relationship.*

Table 3.1 displays the hazard ratios for the three separate Cox models that were estimated. In the first model, we included only the control variables (socio-economic status, gender and age at first observation) and the three dummy variables for parental

divorce denoting whether the event took place before the age of 11, between the ages of 11-13 or after the age of 13. This model allowed us to assess what the effect of divorce was when we did not control for who the adolescent was in terms of temperament and pubertal development. The second model included the control variables and individual level characteristics and demonstrated what the effect of temperament and pubertal development was on the initiation of dating. The final, model included the control variables, individual characteristics and the three divorce dummies. Each model represented a significantly improved fit over the previous one. No differences between boys and girls were found for the effect of divorce.

**Table 3.1**

*Hazard Ratios for Time to First Romantic Relationship in Adolescence (N = 1,487)*

	<b>Model 1</b> <b>HR (95% CI)</b>	<b>Model 2</b> <b>HR (95% CI)</b>	<b>Model 3</b> <b>HR (95% CI)</b>
Socio-economic status	0.89 (0.83 – 0.95)**	0.89 (0.83 – 0.95)**	0.90 (0.84 – 0.96)**
Age at start of obs.	1.24 (1.16 – 1.32)**	1.22 (1.14 – 1.30)**	1.22 (1.14 – 1.30)**
Gender (ref. = female)	0.77 (0.68 – 0.88)**	0.73 (0.64 – 0.84)**	0.74 (0.64 – 0.85)**
Individual characteristics			
Tanner stage		1.09 (1.02 – 1.16)**	1.09 (1.02 – 1.16)*
Affiliation		1.00 (0.93 – 1.07)	1.00 (0.93 – 1.07)
Effortful control		0.93 (0.86 – 1.00)*	0.93 (0.87 – 1.00)
Fear		1.03 (0.96 – 1.11)	1.03 (0.96 – 1.11)
Frustration		0.98 (0.92 – 1.06)	0.98 (0.92 – 1.06)
Shyness		0.86 (0.80 – 0.92)**	0.86 (0.80 – 0.93)**
High-intensity pleasure		1.12 (1.05 – 1.20)**	1.12 (1.04 – 1.20)**
Divorce (ref. = no div)			
Divorce before age 11	1.21 (1.02 – 1.43)*		1.12 (0.94 – 1.32)
Divorce age 11-13	2.02 (1.36 – 2.99)**		1.83 (1.23 – 2.71)**
Divorce age > 13	0.95 (0.62 – 1.47)		0.89 (0.58 – 1.38)
Number of events	934	934	934
-2 Log Likelihood	-6379.53	-6362.93	-6358.34
LR Chi-square ( <i>df</i> )	91.78 (6)**	124.98 (10)**	134.15 (13)**

*Note.* HR = Hazard Ratio.

\* $p < .05$ . \*\* $p < .01$ .

In terms of background characteristics, our final model indicated that adolescents who were older at the time of first observation had shorter time to first romantic relationship. Girls had a significantly faster transition to first romantic union by 25.9% than boys (this is calculated as:  $(\exp(B) - 1) * 100\%$  or in this case  $(\exp(-.30)-1) * 100 = -25.9$ ). Furthermore, an increase in the socio-economic status of the parental household was associated with a decrease in the time to first relationship (by 10.4%). In terms of individual characteristics, our final model demonstrated that when adolescents scored one standard deviation above the means for pubertal development and need for high-intensity pleasure, their transition to dating was sped up by 8.5% and 11.7% respectively. In contrast, scoring one standard deviation above the mean for shyness, decreased the speed of transitioning with 13.8%.

When adolescent temperament and level of pubertal development were not taken into account (Model 1), the experience of a parental divorce in childhood and early adolescence both sped up the transition to first romantic relationship (divorce in mid/late adolescence had no effect in any of our models). However, when those individual level characteristics were taken into account, experiencing a divorce in childhood no longer had an effect on the transition to dating. According to our final model, if adolescents went through the marital dissolution of their parents during early adolescence, their hazard rate of beginning to date increased with 82.5%. Those findings were in line both with our expectation that parental divorce would speed up the transition to dating and that the marital dissolution would be most influential if experienced in early adolescence. A divorce in mid/late adolescence slowed down (insignificantly) that transition.

In summary, our findings indicate that after taking individual level characteristics such as temperament and level of pubertal development into account, parental divorce sped up the transition to dating only when it happened during early adolescence.

### **3.4 Discussion**

In this study, we aimed at extending our knowledge of the determinants of adolescent romantic relationships by focusing on the effect of family transitions on the initiation of dating. We were guided by the assertion of life course researchers (Elder, 1985; Elder & Shanahan, 2006) that substantial changes in the lives of parents are bound to affect the transitions in adolescents' lives. Previous work has shown that cumulative family instability (total number of changes within the parental household) is the strongest predictor of current dating status when considering the effect of family make-up on dating (Cavanagh, Crissey, & Raley, 2008). We focused on the effect of marital dissolution on the time to first relationship by properly controlling for who the potentially dating adolescents are in terms of individual level characteristics and by also considering the importance of the timing of the parental divorce. We found that once adolescent temperament and pubertal development were accounted for, parental divorce sped up the transition to first romantic relationship only if it was experienced in early adolescence.

Three central findings emerged from our analyses. First, we showed that the first relationship in adolescence was indeed quite different from the subsequent ones. Adolescents took much longer to transition to the first dating episode than to a later one. It is possible that when adolescents, who have already initiated dating, experience a parental divorce, they will be more likely than non-daters to search for romantic partners as an escape from the unpleasant situation. As Bentler and Speckart (1979) describe in their model, past behavior is the best predictor of future behavior. Once an adolescent has experienced a romantic relationship, initiating a new one is much more likely as demonstrated by researchers who have accounted for earlier dating status (e.g., Friedlander, Connolly, Pepler, & Craig, 2007; Furman, Low & Ho, 2009). Previous investigations which focus on current dating status, without controlling for earlier dating behavior or looking specifically at the first relationship, might be producing a distorted picture of the covariates' effects on adolescent propensity to date. In our work, we addressed this methodological challenge by focusing deliberately on the transition to first romantic relationship.

Second, our work demonstrated that, as expected, adolescents who experienced a parental marital disruption progressed to first dating episode much faster than adolescent from intact families and also, that the effect of divorce was highly time-specific. Numerous mechanisms have been implicated for the effects of parental divorce on youth's well-being. Some researchers have presented marital dissolution as a stress-producing event which adolescents avoid by exiting the parental household and searching for alternatives elsewhere (e.g., Glenn & Kramer, 1987). Others have looked at the modeling behavior of single and dating parents (e.g., the effect of divorce on earlier sexual initiation, Capaldi, Crosby, & Stoolmiller, 1996). Whereas in our study we did not clarify empirically the mechanism which could account for the described effect, we did demonstrate that once individual level characteristics were taken into account, only the divorces which took place in early adolescence sped up the transition to dating. This finding is in line with the work on heightened sensitivity to stress during transition periods (Graber & Brooks-Gunn, 1996). During early adolescence, youth go through multiple physiological changes with the onset of puberty and the transition to a new school environment with the move to secondary school. Therefore, this could be the time when adolescents and their behaviors are most affected by the disturbance of a parental marital dissolution.

Finally, our study demonstrates the importance of not overlooking individual level factors when studying the effects of family transitions on youth's behavior. Without properly controlling for who the potentially dating adolescents are, findings can misrepresent the impact of changes within the family context. In the case when we did not include adolescent temperament or level of pubertal development, we found that parental divorce sped up the transition to dating both when it happened in childhood and in early adolescence. However, when we accounted for those individual factors, we found that the marital dissolution affected the rate of initiating dating only if it took place during early adolescence. It appears that if the parental divorce occurred too long ago

(i.e., in childhood), the adolescent characteristics were more important for the beginning of dating than what happened in the family context. Similarly, in their work on the relationship between father absence and earlier onset of sexual activity in adolescence, Mendle and colleagues (2009) demonstrated that at least part of the effect could be due to cofounded individual-level factors (e.g., the genetic predisposition to heightened impulsivity). Therefore, in order to properly assess the impact of family events, researchers should also account for who the individuals of interest are.

Despite its contributions, this study has certain limitations which need to be addressed. As mentioned earlier, we did not test directly any of the proposed mechanisms through which divorce affects adolescents. In order to disentangle these processes, future studies can include direct measures of adolescent and parental levels of stress associated with the divorce, dates of initiations of new romantic relationships by the parents, and changes in the socioeconomic and working status of the parent with whom the adolescent resides. This can allow subsequent investigations to focus on how the effect of parental marital dissolution might vary and unfold over time. That is, besides taking the discrete event of divorce into account, researchers should also recognize divorce as a dynamic process which produces changes on multiple levels of adolescents' and parents' lives.

Also in line with this limitation is the fact that we focused on the date of parental divorce. It is possible that the date of marital dissolution is not in fact the factor that affects adolescent initiation of dating but rather, the stressful events which surround the date of the legal parental separation. However, it should be noted that in our research we used *adolescent*- and not parent-reported date of parental divorce and thus, it is rather likely that we were actually capturing the effects of parental move out of the house rather than actual legal divorce (since that is an event much more obvious to the adolescent than the signing of legal documents). This issue, however, needs to be more adequately worked out in subsequent research.

In our work, we purposefully focused on how changes in the parental household affected adolescent dating status. We acknowledge however, that adolescents' romantic relationships can be affected by much more than just changes in the parental household. How the adolescent experiences and reacts to the event of a parental divorce could depend on, for example, not only individual level characteristics but also on the larger peer network and its gender composition in particular. Essentially, for adolescents that do not have a large peer network, with enough opportunities to meet potential dating partners, parental divorce may not affect their dating behaviors the same way as it may the behaviors of adolescents with ample dating opportunities. Additionally, the findings of this study do not elaborate on how adolescents experience their romantic relationships following a parental divorce. Thus far, we are able to say that parental divorce affects adolescent initiation of dating but cannot make any assumptions on what the quality of these intimate bonds will be.



Despite certain limitations, this study makes an important contribution to the study of family events and adolescent romantic relationships. In contrast to previous work, which has focused on the effects of cumulative family instability and has overlooked the importance of individual characteristics, we were able to demonstrate the substantial effect which the single event of parental divorce can have on the initiation of dating even when adolescent temperament and pubertal development are accounted for. It remains to be seen whether the fact that the initiation of those romantic bonds was affected by parental divorce will also have consequences for the way the adolescent experiences those relationships.





# Chapter 4

## Parental Residential and Partnering Transitions as Triggers of Adolescent Romantic Relationships\*

This chapter examined if parental residential (biological parent's move out of the household) and partnering transitions (new paternal and maternal intimate partners) could trigger an adolescent's romantic relationship. Using a count data hurdle model and recurrent event models on data from a prospective cohort study among Dutch adolescents ( $N = 1,513$ ), the study demonstrated that only a new intimate relationship by the mother led to a faster transition to adolescent dating. Residing in a stepparent family was linked to higher relationship odds whereas living in a single-parent household was associated with lower odds of starting a romantic relation by the adolescent. The effects did not differ for boys and girls.

---

\* This chapter is based on:

Ivanova, K., Mills, M., & Veenstra, R. Parental residential and partnering transitions as triggers of adolescent romantic relationships. *Manuscript Submitted for Publication*.

## 4 Parental Residential and Partnering Transitions as Triggers of Adolescent Romantic Relationships

### 4.1 Introduction

Recent estimates show that about half of all marriages in the United States end in divorce (Amato, 2010). Although the rates of marital dissolution in most European countries remain comparatively lower, there has been a steady increase in the past decades. The proportion of Dutch couples ending their marriages with divorce within 20 years has increased from one in six in the 1960s to one in four in the 1990s (Latten & de Graaf, 2010). Additionally, the Netherlands has seen a substantial rise in the number of cohabiting but not legally married couples (Mills & Poortman, 2010) and the risk of separation for these unions is even higher than for marriages (Kalmijn, Loevre, & Manting, 2007). A substantial number of the parental relationship dissolutions involve at least one child under the age of 18 (Potter, 2010; de Graaf, 2008) and considerable efforts have been directed towards understanding the effects of divorce on children (Wolfinger, 2005; 2011). The almost exclusive focus on divorce, however, means that there has been relatively less direct research into how broader types of parental residential instability or parent's own re-partnering behavior can impact *adolescent* romantic relationships.

In an era of multiple and unstable relationships, early romantic bonds may be pivotal to our understanding of subsequent success of intimate relations. In line with this claim, research has shown that a continuity exists between adolescent romantic relationships and the timing of subsequent adult union formation (Raley, Crissey, & Muller, 2007), that adolescent experiences within their romantic relationships may form the basis for a multitude of adult experiences, such as inter-partner violence (Gomez, 2011), and that aspects of adolescent dating histories can predict romantic relationship qualities in young adulthood (Madsen & Collins, 2011). Yet, as Cavanagh, Crissey, and Raley (2008: 698) argued: "the antecedents of adolescent romance remain poorly understood".

A notable exception is the work of Cavanagh and colleagues (2008), who examined how the history of family instability was associated with the likelihood of romantic involvement, the total number of relationships, and their potentially violent nature. They found that as the number of changes in family structure across the early life course increased, the likelihood of currently being involved in a relationship and the total number of ever experienced relations also increased. This cumulative family instability did not affect the probability of being involved in a relationship marked by conflict.

The current study builds upon and extends previous research in four major ways. First, instead of focusing only on parental divorce or aggregated family instability, we examine how specific parent-child co-residential and parental re-partnering events affect adolescents' propensity to date. Our second and key innovation is that by adopting an event history approach, we are able to move beyond the examination of merely associational relationships, to a causal understanding of how parental transitions impact

adolescent romantic lives. Research in the past has generally focused on establishing an association between, for example, the marital status of the parents (mostly divorce) and the adolescent's dating experiences. Statements about associations, however, are quite different from causal assertions that are designed to say something about how events are produced or conditioned by other events (Blossfeld & Mills, 2001). Therefore, instead of focusing simply on the association between divorce and the likelihood that adolescents form relationships, we focus on the 'timing' of these relationships in relation to certain family events.

A related and third innovation is that by adopting a causal and time-varying approach, we do not only examine the impact of a more general indicator of the number of family changes but can gauge the causal impact of multiple parental transitions directly in relation to changes in adolescent dating behavior. Previous studies that have included parents' relationship status have done so by only providing a 'snapshot' of their status at one point in time. We use detailed dates of both parents' residential statuses and re-partnering histories, together with the dates of entry and exit of adolescents into romantic relationships. Finally, the majority of previous studies on family affects on adolescent romance have utilized data from the American context. Although this research has provided a vast wealth of information, more universal conclusions about family behavior may be unwarranted due to the unique institutional context of the U.S. (Mills & Taht, 2010). For example, some research has shown that marked divergence exists between American and Dutch parents' approaches to the question of teenage sexuality (Schalet, 2000). Our work provides an insight into how family effects on adolescent romance might differ in another context, in this case the Western European context of the Netherlands.

#### *Family structure history and adolescent romance*

A broader approach that we adopt is the concept of 'linked lives', often posited by life course research (Elder, 1985; Elder & Shanahan, 2006). We, therefore, assume that the life events of a child's parents have a 'linked' or direct effect on the child. It is of course theoretically possible that events are reciprocal (i.e., an adolescent impacts behavior of parents). However, in this work, we only examine the impact of parental behavior on their children.

In addition to the concept of linked lives, we also use the general framework of the intergenerational transmission of marriage and divorce (Mueller & Pope, 1977; Wolfinger, 2005; 2011). This body of literature demonstrates how parental relational instability has the potential to shape intimate relationships and generate instability in the relationships of children of divorce. Growing up in a context of divorced or unstable parental relationships has been shown to impact children's own adult union formation and dissolution patterns with children from intact families experiencing lower rates of relationship instability than children from non-intact families (Amato, 2010; Martin, Mills, & LeBourdais, 2005; Wolfinger, 2005; 2011). Offspring of divorced parents have been found to marry at younger ages and to be more likely to cohabit before marriage

(Bumpass, Martin, & Sweet, 1991; Furstenberg & Teitler, 1994). The experience of parental relationship dissolution has also been shown to be related to children's subsequent lower commitment to and trust in marriage (Amato & DeBoer, 2001). In line with this, adolescents from single- and cohabiting-parent families have been reported to have lower expectations to marry in adulthood (Manning, Longmore, & Giordano, 2007). With respect to adolescent romantic relationships, the limited research that has been conducted has mostly focused on the fact that adolescents from divorced families are more likely to have (more) dating experience than those from intact families (Heifetz, Connolly, Pepler, & Craig, 2010; Ivanova, Mills, & Veenstra, 2011). Since divorce is more than just a single event, however, it is very likely that the changes and experiences surrounding it that are the driving mechanisms behind these effects (Kim, 2011; Potter, 2010).

*Parental transitions and the initiation of a romantic relation in adolescence*

Two key transitions tied to parental relationship dissolution and family restructuring are a parental move out of the household and the subsequent re-partnering of a parent (Hines, 1997). These can affect the course of adolescents' lives due to their impact on parenting practices and parental behaviors that the adolescents are exposed to. For example, single and divorced parents are themselves more likely to engage in romantic relationships and have been shown to hold more permissive sexual attitudes than parents with intact marriages (Thornton & Camburn, 1987), which could in turn influence their children's openness to dating and sexuality in general (Whitbeck, Simons, & Kao, 1994). Adolescents might be more interested in romantic experiences if they have seen their own parents actively engage in such relations. In the current study, we therefore examine how the introduction of a new parental romantic partner into the life of the adolescent affects their propensity to initiate a romantic relationship. We consider the effects of both new maternal and new paternal partners. In the majority of cases, children remain with their mother after a parental relational dissolution (de Graaf, 2008) and are thus, more likely to be exposed to her dating behaviors than to their father's. Thus, we hypothesize that the initiation of a new romantic relationship by either one of the parents will lead to a faster transition to dating by the adolescent, but we anticipate that this effect will be stronger in the case of a new maternal than a new paternal partner.

In addition to these possible modeling effects, the transition from a two- to a single-parent family has been associated with lower levels of parental monitoring (Demo & Acock, 1996; Kim, Hetherington, & Reiss, 1999). Since the number of adults in the family household decreases at a time when youth enter adolescence and become increasingly more interested in dating (Connolly, Craig, Goldberg, & Pepler, 2004), the barriers for adolescents to experiment with romantic relations might also decrease. Parental knowledge of adolescents' whereabouts and activities has been found to be lower for adolescents who engage in high-risk sexual behaviors than for low-risk takers or abstainers (Siebenbruner, Zimmer-Gembeck, & Egeland, 2007) and low parental monitoring has been associated with an increased likelihood of having experience with dating (Friedlander, Connolly, Pepler, & Craig, 2007). Hence, we expect that once a

parent left the household, adolescents will make the transition to a romantic relationship faster than before the parental move.

#### *The current study*

Our main goal is to test how specific parental transitions trigger romantic relationships in adolescence. Evidence exists that the effect of turbulence within the family on adolescent social development might be moderated by gender. Some researchers have shown that the effects are stronger for one gender over the other, whereas others have found modest or no gender effects (for an overview, see Amato, 2010). Therefore, we also investigate if the hypothesized effects differ by gender. We also control for several key child and family characteristics. We also consider the family composition and the quality of the family climate before the parental transitions as a control for a potentially stressful or peaceful home environment which could operate to either push or pull youth from the parental household. We also control for ethnicity and the socio-economic status of the family due to their documented association with family structure history and parenting practices which might be related to adolescent romance (for an overview, see Amato, 2010).

We make use of data from event-history calendars filled out by the participants in a prospective cohort study among Dutch adolescents. We focus on the early to mid-adolescent period, a time when youth have some of their first dating experiences. We first try to replicate as closely as possible the study by Cavanagh and colleagues (2008) by looking into how family structure history and household instability affect adolescent likelihood of having dating experience and the number of these relations. We then extend this approach by using an event history approach to estimate the causal influence of events by estimating a number of discrete time models (Allison, 1982; Mills, 2011) in order to examine how specific parental transitions potentially *trigger* adolescent romantic relationships.

## **4.2 Method**

### *Participants and procedure*

Data were gathered from participants in the 'TRacking Adolescents' Individual Lives Survey (TRAILS), a prospective cohort study among adolescents in the general Dutch population. Participants come from five municipalities, including both urban and rural areas, in the North of the Netherlands. Of all children and parents approached for participation in the TRAILS study, 76.0% gave their consent which resulted in an initial sample of 2,230 participants. Non-respondents at the baseline measurement were more likely to be boys, came from lower socioeconomic background, and had worse school performance than respondents. A detailed description of the survey's design, sampling procedures, data collection, measures, and attrition analyses can be found in De Winter et al. (2005) and Huisman et al. (2008).

This paper used data from the Event History Calendar (EHC) interview which took place during the third wave of TRAILS (2005 - 2007). A total of 1,513 adolescents

filled out the Event History Calendar (67.9% of the initial sample). Compared to participants, nonparticipants were more likely to be boys ( $\chi^2(2,230) = 31.58, p < .05$ , Cramer's  $\phi^2 = .12$ ), came from families with fathers with lower educational attainment ( $\chi^2(1,874) = 37.83, p < .01$ , Cramer's  $\phi^2 = .14$ ), and were older ( $t(2,228) = 2.40, p < .05$ , Cohen's  $d = .11$ ). The EHC interview took place in the participants' homes and was approximately 45 minutes long. The adolescents were asked to recall if certain events, specified by the interviewer, took place in the previous five years (since the beginning of data collection in 2001 – 2002). Of the sample of 1,513 adolescents, 1,442 (95.3%) were observed for the total period of 5 years, with 71 (4.7%) observed only slightly shorter. When adolescents answered positively to an interviewer's question ("Have your parents divorced in this period?", "Have you started a romantic relationship in this period?"), they were asked to mark the months in which the event started and ended on the calendar provided. The average age of the participants at the time of the interview was 16.25 ( $SD = 0.67$ , range 14.80 to 18.13) and the average age at the start of observation was 11.30 ( $SD = 0.65$ , range 9.87 to 13.13).

### *Measures*

*Entry into and number of adolescent romantic relationships.* Adolescents reported the months when they started and ended new romantic relationships. We used this information (reported at the mean age of 16.25) to represent the start and end dates of dating. As discussed previously, we examined two outcome variables in two separate models. First, to allow some comparability between our results with Cavanagh et al. (2008), we included a measure of the *number of romantic relationships* the adolescent experienced in the period covered by the EHC. The maximum number of reported relationships was seven. The second dependent variable for the analysis of the transition to romantic relationships was the *probability of entry into a romantic relationship* during the specified monthly interval ( $t$ ), conditional on the fact that it did not occur before time  $t$ .

*Family structure at the beginning of observation.* The family composition at the start of the event history calendar was reported by the adolescents and was combined into three categories. It was not possible to use the extended 8 category model of Cavanagh et al. (2008) due to the sample size and the fact that there is less variation in family forms due to lower dissolution rates in the Netherlands. The three categories were: 1) two biological parents ( $n = 1,187$ ); 2) the combined categories of a biological parent and stepparent (mother and stepfather,  $n = 101$ ; father and stepmother,  $n = 14$ ) and two adoptive parents ( $n = 2$ ); and, 3) the combined categories of single-mother ( $n = 180$ ), single-father families ( $n = 22$ ) and surrogate parents ( $n = 5$ ). We had no information about family composition for two adolescents.

*Household instability and parental transitions during observation.* For the analysis of the number of romantic relationships, we used the adolescents' reports of changes in household composition. This was divided into three categories: 1) no family changes ( $n = 1,015$ ), 2) a biological parent moved out ( $n = 121$ ), and finally, 3) a stepparent ( $n = 33$ ) or stepsibling ( $n = 14$ ) moved in, combined into one category ( $n = 47$ ). We did not consider



the date of the parental divorce in our work since we found that over 50% of the adolescent reported divorce dates coincided with the reported date of a biological parent's move out of the household. It appeared that, at least for our sample, the divorce date captured the moment of a biological parent physically leaving the household and not a formal parental legal separation. In the event history models, the parental transitions were measured using the adolescent reported timing (the month in which it occurred) of the following events: 1) one of the biological parents moved out ( $n = 121$ ); 2) the father started a new romantic relationship ( $n = 115$ ); and, 3) the mother started a new romantic relationship ( $n = 124$ ).

*Family assessment device.* We used the parent-reported General Functioning scale of the McMaster Family Assessment Device (Epstein, Baldwin, & Bishop, 1983) from the first wave of TRAILS to control for the quality of the family climate. The participating parent indicated how well a number of statements described the family (e.g., “We avoid talking about our worries and fears.”, “We cannot rely on each other.”). A low score on the scale indicated a healthy family climate; a high score represented a dysfunctional family climate (range 1 to 4, 12-items,  $\alpha = .85$ ). Data were available for 1,427 youth. The measure was standardized to  $M = 0$  and  $SD = 1$ .

*Child and family characteristics.* The child characteristics included *gender*, *age at the start of observation* (standardized to  $M = 0$  and  $SD = 1$  for the analysis on count of relations), and *ethnicity*. These data were collected in the North of the Netherlands, a region with a relatively homogeneously native Dutch population. In our models we controlled for ethnicity, including a dichotomous variable of whether respondents had a native Dutch ( $n = 1,342$ ) or other background (the largest Dutch minorities of Turkish, Moroccan, Surinamese, Antillean, Indonesian, other;  $n = 171$ ). We included a time-varying variable for age, based on the age at start of observation and increasing with each month of observation, in the analysis on the initiation of a relationship. We controlled for family characteristics by including *father's highest educational level*. Due to the fact that the Netherlands can be described as adhering to the male breadwinner model (i.e., man works full-time and partners are housewives or employed part-time; Esping-Andersen, 1990), we included paternal education as a proxy for the family's socioeconomic status. This measure was combined into three categories: 1) elementary or lower tracks of secondary education ( $n = 373$ ; referred to as “low education” hereafter); 2) higher tracks of secondary education ( $n = 414$ ; referred to as “middle education”); and, 3) senior vocational education or University education ( $n = 510$ ; referred to as “high education”). Analyses were also performed with maternal education with no substantial changes to the results.

In all models, paternal educational level was entered as ordered (“cascading”) dummy variables. Each dummy variable shows the amount of change between categories rather than the amount of change between the category of interest and the reference category. The first contrast in the analysis then indicated the effect of having a father with low versus higher-than-low education and the second contrast indicated the effect



of having a father with high versus not-high education. For more information, see Walter, Feinstein, and Wells (1987).

#### *Analytical strategy*

We performed two sets of analyses. First, similar to Cavanagh et al. (2008), we studied the association between family structure history and instability and the number of adolescent romantic relationships. However, since we examined up to 7 relationships and found that the transition to first relationship was markedly different from higher-order transitions, we estimated count data hurdle models (Mullahy, 1986) to examine the effects of family structure history and instability on the number of adolescent romantic relationships. The hurdle model is a two-part model. The first part is a binary outcome model of transition to first relationship, where a zero or a positive outcome is modeled (never dated versus dated at least once), with the second part forming a truncated count data model, conditional on a positive outcome from the first model.

In the second set of models, we adopted an event history framework and estimated a recurrent event discrete-time complementary log-log (cloglog) model with random effects (Allison, 1982; Mills, 2011). In discrete-time models, the dependent variable is the probability of entering into a romantic relationship during the specified monthly interval ( $t$ ), conditional on the fact that it did not occur before time  $t$ . In other words, the analysis examined the months until entry into a romantic relationship or right-censoring (i.e., event did not occur before the end of the observation period). For the transition to first romantic relationship, the risk period was defined as the period between the start of observation until entry into first romantic relationship or right-censoring by the date of the interview. The higher order relationships were represented by the month after dissolution of the previous relationship until entry into the next relationship or right-censoring. We estimated a recurrent event model (Aalen, Borgan, & Gjessing, 2008; Mills, 2011), with recurrent dating events nested within individuals, because adolescents could experience more than one romantic relationship. The multiple dating events for the same adolescent might have been correlated due to the presence of unobserved individual-specific factors that affected the occurrence of each event (Aalen, Borgan, & Gjessing, 2008; Steele, 2005; Therneau & Gambsch, 2000). We utilized the cloglog link because we were only able to observe time in grouped (monthly) form.

### **4.3 Results**

#### *Descriptive analysis*

A total of 958 adolescents (63.3% of the EHC sample) reported having had at least one romantic relationship within the observation period. Similar to the results reported by Cavanagh and colleagues (2008), girls were more likely than boys to report dating experience ( $\chi^2(1, N = 1,513) = 16.99, p < .01$ ) and older teens (at beginning of observation) were more likely to report having at least one relationship than younger teens ( $t(1,391) = -5.09, p < .01$ ). An additional check on the events experienced before the beginning of observation showed that for the majority of adolescents in our sample,

the first reported relationship during the EHC was their first relationship in general. The average number of romantic relationships within the observation period was 1.12 ( $SD = 1.18$ ).

Before turning to our analysis of how family structure history and instability affected adolescent propensity to date and the number of these relationships, we provide an overview of the transitions experienced by the youth in our sample. As illustrated in Table 4.1, the majority of adolescents came from intact families at the beginning of the data collection (78.5%) and from households which reported a relatively healthy family climate (measured by the Family Assessment Device). The most frequently experienced parental transition was the beginning of a new maternal romantic relationship (8.2% of the cases) and the least reported was the moving in of a new stepparent / stepsibling into the parental household (3.1% of the cases).

**Table 4.1**

*Descriptive Statistics of Variables Used in the Analyses*

Variables	<i>N</i> (% of EHC sample)	<i>M</i> ( <i>SD</i> )
Number of romantic relations during observation		
0	555 (36.7 %)	
1	493 (32.6 %)	
2	293 (19.4 %)	
3	110 (7.3 %)	
4	33 (2.2 %)	
5	20 (1.3 %)	
6	8 (0.5 %)	
7	1 (0.1 %)	
Family instability & transitions during observation		
Biological parent moved out	121 (8.0 %)	
Stepparent / stepsibling moved in	47 (3.1 %)	
First new paternal partner	115 (7.6 %)	
First new maternal partner	124 (8.2 %)	
Family structure at beginning of observation		
Two biological parents	1,187 (78.5 %)	
Biological and stepparent	117 (7.7 %)	
Single parent	207 (13.7 %)	
Child and family characteristics		
Female	830 (54.9 %)	
Age at start of observation		11.30 (0.65)
Age at interview		16.25 (0.67)
Non-Dutch ethnicity	171 (11.3 %)	
Father elementary / lower secondary education	373 (24.7 %)	
Father higher secondary education (middle)	414 (27.4 %)	
Father senior vocational / University (high)	510 (33.7 %)	
Family assessment device (range 1 - 4)		1.76 (0.36)

*Number of adolescent romantic relationships*

Our findings from the count data hurdle models revealed that although certain family compositions at the beginning of observation and household transitions had an effect on the likelihood of having dating experience, these did not affect the ultimate number of romantic relationships. Table 4.2a displays our findings from the first part of the count data hurdle models (the transition from 0, “never dated”, to 1, “had at least one romantic relationship”) and Table 4.2b displays the results from the truncated count data models. None of the tested gender interactions were significant and thus, are not shown (but available upon request).

As shown in the final model, the odds of dating experience were 1.41 times higher for girls than for boys. Girls also reported a significantly higher number of romantic relations. Scoring one standard deviation above the mean for age at first observation also significantly increased the odds of dating and the overall number of relationships. Having a father with high education resulted in significantly lower odds of dating experience compared to adolescents with fathers with low or middle education. With respect to family structure at the beginning of the observation period, adolescents from stepparent families were 1.58 times more likely to have dating experience than those from intact families. Of the parental transitions that were considered, only the move of a biological parent from the household affected the likelihood of ever having dated. Adolescents who had experienced this event were 3.66 times more likely to have dating experience than those who did not experience this event. With respect to the number of adolescent romantic relations, only coming from a single parent family at the beginning of the observation affected the count of relations, decreasing it by 34.7% (calculated as  $(\exp(b)-1)*100$ ). The effect however, was borderline insignificant ( $p = .08$ ) but readers should be reminded of the relatively low sample size as well.

**Table 4.2a**

*Estimates from the Count Data Hurdle Model Predicting the Probability of Having Any Adolescent Romantic Relationship Experience (Zero Hurdle Portion; N = 1,243)*

	Model 1			Model 2			Model 3		
	<i>B</i>	robust <i>SE</i>	<i>OR</i>	<i>B</i>	robust <i>SE</i>	<i>OR</i>	<i>B</i>	robust <i>SE</i>	<i>OR</i>
Household instability									
Biological parent moved out				1.25**	0.30	3.48	1.30**	0.30	3.66
Stepparent / stepsibling in				-0.14	0.48	0.87	0.01	0.51	1.01
No family instability (ref.)									
Family structure at beginning									
Stepparent family	0.37	0.23	1.45				0.46*	0.23	1.58
Single-parent family	-0.27	0.27	0.76				-0.38	0.27	0.69
Two biological parents (ref.)									
Child & family characteristics									
Female (ref. = male)	0.34**	0.12	1.41	0.34**	0.12	1.41	0.34**	0.12	1.41
Age at beginning	0.23**	0.06	1.26	0.22**	0.06	1.25	0.22**	0.06	1.25
Non-Dutch ethnicity	0.01	0.22	1.01	0.04	0.22	1.04	0.01	0.22	1.01
Father middle & high ed. (vs. low)	-0.29 <sup>†</sup>	0.16	0.75	-0.25	0.16	0.78	-0.27	0.16	0.76
Father high ed. (vs. low & middle)	-0.38**	0.14	0.69	-0.39**	0.14	0.68	-0.36*	0.14	0.70
Family assessment device	0.05	0.06	1.06	0.03	0.06	1.03	0.03	0.06	1.03
Constant	0.56**	0.14		0.47**	0.14		0.46**	0.14	
$\chi^2$	45.09			61.86			62.29		
<i>df</i>	8			8			10		

*Note:* OR = Odds Ratio.

<sup>†</sup>*p* < .10. \**p* < .05. \*\**p* < .01.

**Table 4.2b**

*Estimates from the Count Data Hurdle Model Predicting the Number of Adolescent Romantic Relationships for Dating Adolescents (Count Portion; N = 1,243)*

	Model 1		Model 2		Model 3	
	<i>B</i>	robust <i>SE</i>	<i>B</i>	robust <i>SE</i>	<i>B</i>	robust <i>SE</i>
Household instability						
Biological parent moved out			-0.07	0.15	-0.04	0.15
Stepparent / stepsibling in			0.11	0.25	0.27	0.26
No family instability (ref.)						
Family structure at beginning						
Stepparent family	0.05	0.12			0.04	0.12
Single-parent family	-0.38	0.24			-0.43 <sup>†</sup>	0.24
Two biological parents (ref.)						
Child & family characteristics						
Female (ref. = male)	0.24**	0.09	0.25**	0.09	0.24**	0.09
Age at beginning	0.10**	0.04	0.10**	0.04	0.10**	0.04
Non-Dutch ethnicity	0.18	0.13	0.20	0.13	0.19	0.13
Father middle & high ed. (vs. low)	-0.08	0.10	-0.08	0.10	-0.08	0.10
Father high ed. (vs. low & middle)	-0.09	0.10	-0.10	0.10	-0.10	0.10
Family assessment device	-0.03	0.04	-0.03	0.04	-0.03	0.04
Constant	0.11	0.10	0.10	0.10	0.11	0.10
$\chi^2$	45.09		61.86		62.69	
<i>df</i>	8		8		10	

*Note.* <sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

*The initiation of a romantic relationship in adolescence*

In the second part of our analyses, we examined how specific parental transitions affected adolescents' odds of initiating a romantic relationship. Our findings are shown in Table 4.3. None of the gender interactions we tested were significant and were therefore, not examined further. The multiplicative effects of a covariate on the odds of initiating a romantic relationship in a given interval can be obtained by exponentiating the coefficient and are also displayed in Table 4.3 ( $e^B$ ).

As expected, the move out of a biological parent from the household increased the odds of starting a relation by 1.32 (see Model 1), but that effect was insignificant when the other parental transitions were added to the model (see Model 3). Contrary to our expectations, the introduction of a new paternal partner in the life of the adolescent did not have a significant effect on the odds of dating. On the other hand, we found the expected effect for a new maternal partner. When all parental transitions were considered in the model, the initiation of a new romantic relationship by the mother increased adolescents' odds of starting a romantic relationship by 1.79. Both of the considered family compositions at the beginning of observation affected adolescents' transitioning to romantic relationships.

Whereas adolescents from stepparent families had significantly higher odds of starting a relationship, coming from a single-parent family decreased these odds (both compared to coming from an intact family). As shown in Model 3, girls had 1.54 higher odds than boys of starting a relationship in any given interval. As adolescents aged, their odds of dating increased by 1.71. Coming from a family with a father with high education decreased the odds of dating compared to having a father with middle or low education. In all models, a significant part of the variance was explained by the variance of the random effects (see Table 4.3).

**Table 4.3**

*Estimates from the Recurrent Event Complementary Log-log Model Predicting the Likelihood of Initiating an Adolescent Romantic Relationship (N = 67,226 episodes)*

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	$e^B$	<i>B</i>	<i>SE B</i>	$e^B$	<i>B</i>	<i>SE B</i>	$e^B$
Household instability									
Biological parent moved out	0.28*	0.14	1.32				-0.03	0.17	0.97
New paternal partner				0.25	0.19	1.29	0.26	0.20	1.30
New maternal partner				0.57**	0.17	1.76	0.58**	0.18	1.79
No family instability (ref.)									
Family structure at beginning									
Stepparent family	0.26*	0.12	1.30	0.26*	0.12	1.30	0.26*	0.12	1.30
Single-parent family	-0.27†	0.15	0.77	-0.37*	0.16	0.69	-0.37*	0.16	0.69
Two biological parents (ref.)									
Child & family characteristics									
Female (ref. = male)	0.43**	0.08	1.54	0.43**	0.08	1.54	0.43**	0.08	1.54
Age (time-varying)	0.54**	0.02	1.72	0.54**	0.02	1.71	0.54**	0.02	1.71
Non-Dutch ethnicity	0.09	0.12	1.09	0.10	0.12	1.10	0.10	0.12	1.10
Father middle & high ed. (vs. low)	-0.17†	0.09	0.85	-0.17†	0.09	0.84	-0.17†	0.09	0.84
Father high ed. (vs. low & middle)	-0.30**	0.09	0.74	-0.29**	0.09	0.75	-0.29**	0.09	0.75
Family assessment device	0.00	0.04	1.00	0.00	0.04	1.00	0.00	0.04	1.00
Constant	-11.85**	0.33		-11.79**	0.33		-11.79**	0.33	
Log likelihood	-6133.94			-6126.92			-6126.90		
$\ln \sigma^2 (SE)$	-0.47	0.12		-0.48	0.12		-0.47	0.12	
$\sigma_u (SE)$	0.79	0.05		0.79	0.05		0.79	0.05	
$\rho (SE)$	0.28**	0.02		0.27**	0.02		0.27**	0.02	

*Note.* † $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

#### 4.4 Discussion

In this study, we extended existing research on the determinants of adolescent romantic relationships by focusing on how multiple parental residential and relationship transitions could trigger adolescent dating. Previous work has shown that cumulative family instability (total number of changes within the parental household) was the strongest predictor of current dating status and the number of these relations when considering the effect of family composition on dating (Cavanagh, Crissey, & Raley, 2008). In our investigation, we were able to use the detailed timing of both parents' residential statuses and re-partnering histories and connect these with the dates of entry and exit into romantic relationships for the adolescents. Several noteworthy findings emerged from our work.

Firstly, of the parental transitions of interest (biological parent's move out of the household and the introduction of new parental partners into the life of the adolescent) only the initiation of a romantic relationship by the mother led to an increase in an adolescent's propensity to date. In contrast, a new paternal partner did not have any effect. This is not necessarily surprising in light of the fact that around 85% of Dutch children stay with their mother after parental relationship dissolution (de Graaf, 2008) and are thus, likely more exposed to the mother's rather than the father's behaviors. Earlier work has demonstrated that parental behaviors and attitudes can serve as models for adolescents' sexual behaviors. For example, research has established that the mother's dating behaviors after a parental marital dissolution were related to their adolescents' levels of sexual activity (Whitbeck, Simons, & Kao, 1994). Our work also shows that when the mother started a new relationship, the adolescents were themselves more likely to do the same. The precise mechanism behind this finding however, remains unclear. In addition to the possible socialization effects which could be at play, it could also be that once the mother initiates a new romantic relationship, she begins to spend less time with her children and thus, engages in lower parental monitoring. This decreased level of parental supervision has been shown to be associated with a higher likelihood of engaging in dating for adolescents (Friedlander, Connolly, Pepler, & Craig, 2007). These accounts of the relationship which we found, however, remain speculative. More detailed prospective information on parenting practices and attitudes both before and after the parental relationship dissolution is necessary in order to clarify the mechanism behind it.

Our second key finding relates to the effect of the family composition at the beginning of the observation (single-parent, stepparent, and two biological parents families) on an adolescent's propensity to date. We found that coming from a stepparent family increased adolescent's odds of initiating a romantic relation. On one hand, this effect provides support for previous findings that cumulative family instability is a strong predictor of entry into romantic relationships (e.g., Cavanagh et al., 2008). Adolescents in stepparent families are likely to have experienced their biological parents' relationship dissolution, the initiation of a new romantic relationship by one or both of the parents, and the entry of a stepparent into the household. Being exposed to such multiple transitions plays an important role in shaping the adolescent lives (Amato, 2000; Crosnoe



& Cavanagh, 2010). On the other hand, it could be the quality of the stepparent-adolescent relationship which drives the effect we found. For example, previous work has found that in the cases when boys perceived the relationship with their stepfather to be close and caring, they were less likely to engage in sexual activity (Manning, Holtzman, & Kapinus, 2007). Although we included a measure of the quality of the family climate in our work and it did not have an effect, we were not able to directly assess the stepparent-adolescent relationship, which would be important to explore in further research.

Another notable finding related to the effect of family composition was that adolescents from single-parent households were *less* likely to initiate romantic relationships. This result is particularly interesting in light of findings that residing in a single-parent family is associated with higher likelihood of being currently involved in a dating relationship and the number of these relations for adolescents (e.g., Cavanagh et al., 2008), greater odds of early cohabitation for young adults (Ryan, Franzetta, Schelar, & Manlove, 2009), and increased risk of teenage pregnancy (Teachman, 2004) to mention just a few.

Our finding likely points to the decidedly different institutional contexts in which Dutch single-parent families are embedded. Dutch single-parent households are protected by governmental regulations and benefit substantially from various family income and tax measures (Lok, 2009). Also, only a very small percentage of single-parents in the Netherlands work full-time or use any sort of day-care services (Portegijs, Cloin, Ooms, & Eggink, 2006). In comparison, about half of all custodial parents in the United States work full-time, year-round (Grall, 2009). In other words, less Dutch single-parents spend substantial amounts of time engaged in the labor market and thus, away from their maturing adolescents. As previously mentioned, parental control and knowledge of the adolescent's whereabouts are strong predictors of adolescent dating status (Friedlander et al., 2007).

At the same time, our findings showed that the transition from a two- to a single-parent family (i.e., a biological parent's move out of the household) was associated with a *higher* likelihood of having at least some dating experience. These results, however, are not necessarily contradictory. We assessed the family composition (single-parent, stepparent, and two biological parents) at the beginning of observation. In other words, this was the family's *status quo* at the time the adolescents entered our study and was thus, the result of possible changes experienced before adolescence. In contrast, the parental residential transitions (e.g., the biological parent's move out of the household or parental re-partnering) were observed in the five year period starting with the entry into adolescence. Previous work has already established that stressors which are experienced during transitional periods such as the entry into adolescence can have stronger effects on adjustment than if they are experienced at another time (Graber & Brooks-Gunn, 1996). This difference in the timing of the parental transitions could account for the effects we found.

There are also certain limitations that we should address. In our work we did not find any significant gender interactions. On one hand, it could be that the low number of adolescents from non-intact families (especially the very few single-father families) and the low number of parental transitions in our sample did not allow for gender differences to be detected. Yet, we should also note that previous investigations have reported mixed findings about possible gender differences in the effect of parental relational instability, with a substantial number reporting little or no differentiation (for an overview, see Amato, 2010). Thus, the fact that we found that girls and boys experience household transitions in a similar way was not necessarily surprising. Furthermore, with respect to the limited single-father households, our sample remains representative of the Dutch context in which the majority of adolescents in single-parent families reside in single-mother homes (de Graaf, 2008).

Another potential restriction of this study is the limited 5-year observation period. This impeded us from investigating the effects of cumulative family instability from birth until at least early adolescence which is a strong predictor of various aspects of adolescent functioning (Amato, 2000; Cavanagh et al, 2008; Crosnoe & Cavanagh, 2010). Regardless, we still contend that we were able to capture a crucial transitional period (i.e., the entry into adolescence) when youth might be even more susceptible to the effects of family instability. Additionally, despite the fact that we established a clear causal link between parental transitions and the initiation of a dating relation in adolescence, we were unable to make any conclusion about how adolescents experience these romantic relationships. We did not find evidence of an association between family structure, parental transitions, and the count of dating relations but it remains the frontier of future investigations to establish how adolescents fare in romantic relations initiated after a substantial parental transition.

Despite certain limitations, this study makes an important contribution to the study of family events and adolescent romantic relationships by establishing a clear causal link between parental and adolescent transitions. This confirms life-course researchers' assertion of "linked lives" – important changes in parents' lives are bound to have a ripple effect on the life-courses of their adolescents. It remains to be seen whether the fact that the initiation of those romantic relationships was affected by a parental transition will also have an effect on how the adolescent functions in these bonds.



# Chapter 5

## The “Long Arm” of Childhood Family Relational Climate: Cumulative Effects on Romantic Relationship (Dis)Satisfaction in Emerging Adulthood\*

The chapter examined how the childhood family relationship climate was related to emerging adults' romantic relationship (dis)satisfaction. In keeping with a cumulative pathways model and recognizing the codependent nature of the parent-child and marital bonds in the family, we examined whether combined childhood trajectories of the quality of these two relations predicted (dis)satisfaction with one's romantic partner relationship in emerging adulthood. Moreover, we investigated whether this long-term prospective association could be explained by conflicts and quality of communication with parents and peer worries in adolescence. We analyzed multi-informant data from 212 mothers and their offspring, followed from childhood (age 4-10) into adolescence (age 15-17), and until emerging adulthood (age 25). Results demonstrated that a combined childhood trajectory of low quality marital and parent-child bonds predicted parent-adolescent conflicts and low-quality communication, which in turn predicted dissatisfaction with romantic relationships in emerging adulthood. Furthermore, negative childhood family interactions that were followed by negative experiences with peers in adolescence were more strongly predictive of romantic relationship dissatisfaction in emerging adulthood. In contrast, a positive early relational climate was more strongly associated with relationship dissatisfaction in emerging adulthood when it was followed by elevated conflicts and low-quality communication with parents in adolescence.

---

\* This chapter is based on:

Ivanova, K., Overbeek, G., Boom, J., & Stattin, H. The “long arm” of childhood family relational climate: Cumulative effects on romantic relationship (dis)satisfaction in emerging adulthood. *Manuscript Revised and Resubmitted*.

## **5 The “Long Arm” of Childhood Family Relational Climate: Cumulative Effects on Romantic Relationship (Dis)Satisfaction in Emerging Adulthood**

### **5.1 Introduction**

*‘Fathers, be good to your daughters. Daughters will love like you do.  
Girls become lovers who turn into mothers. So mothers, be good to your daughters too.’*  
- John Mayer

Theories of life-span development (Erikson, 1963) identify the establishment of romantic intimacy as a central task in emerging adulthood. Romantic partners become a more focal source of support in adolescence (Meeus, Branje, Van der Valk, & De Wied, 2007). The quality of one’s intimate partner relationship correlates strongly with different types of (mal)adjustment in emerging adulthood such as substance use (McCollum, Nelson, Lewis, & Trepper, 2005), involvement and desistence from crime (Meeus, Branje, & Overbeek, 2004), and emotional problems such as depression (Rehman, Gollan, & Mortimer, 2008). In accordance, understanding the precursors of the ability to establish and maintain successful romantic relationships is essential (Conger, Cui, Bryant, & Elder, 2000). Therefore, and in line with work on the importance of early experience for later adjustment (O’Connor, 2003; Schaffer, 2000; Sroufe, Coffino, & Carlson, 2010), we examined the role of the relational climate in the family (between ages 4 and 10) for people’s (dis)satisfaction with romantic relationships in emerging adulthood, at age 25.

According to a cumulative pathways model (Bowlby, 1973) early experiences have an indirect impact on later romantic relationship functioning through the initiation of a specific developmental sequence or a chain of events (Sroufe et al., 2010). This theoretical model has also received empirical support from studies which have demonstrated that the quality of childhood relationships does not have a *direct* effect on adults’ romantic functioning (e.g. Flouri & Buchanan, 2002). Thus, instead of taking a “snapshot approach” by linking a starting point to a developmental end point, in this paper we examined a specific sequence in which the quality of the family relationship climate in childhood predicted worries about peer relations and conflicts and low-quality communication with parents in adolescence that, in turn, predicted individuals’ (dis)satisfaction with romantic relationships in emerging adulthood. In doing so, we recognized the codependent and mutually influential nature of the parent-child and marital bonds in the family of origin (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). Furthermore, we made use of prospective rather than retrospective data. Previous work has shown that the affective characteristics of recent events influence the way memories are stored and retrieved, making them biased representations of the past (Brewin, Andrews, Gotlib, 1993; Holland & Kensinger, 2010). We avoided recall bias by using prospective data that spanned eleven measurement waves across a 21 year time period.

*Cross-relationship continuity: From parents to partners*

The quality of the parental marital bond and parent-child interactions are of key importance for later romantic relationship functioning (Conger et al., 2000; Seiffge-Krenke, Shulman, & Klessinger, 2001). This understanding lies at the core of different theoretical frameworks, such as attachment and socialization theory, that are based on the assumption that individuals internalize early family experiences into cognitive-affective schemas that determine subsequent experiences in romantic relationships (Waldinger et al., 2002). Previous research has indicated that youths reared in a household characterized by warmth and promotion of autonomy will develop better interpersonal skills and more satisfactory intimate relationships in adulthood (Feldman, Gowen, & Fisher, 1998). Also, adolescents and emerging adults model their conflict resolution strategies with their partners on the behaviors utilized by their parents (Olsen, Parra, & Bennett, 2010; Simon & Furman, 2010). Finally, several studies have demonstrated that emerging adults' relational or attachment representations are associated with conflict resolution behavior, observed interaction strategies, and relationship satisfaction (Furman & Simon, 2006; Kane et al., 2007).

*The family system: Marital quality and the parent-child bond*

Unfortunately, as of yet, investigations of cross-relationship continuity have exclusively looked into the separate effects of the parent-child and parent-parent bonds on the quality of adult romantic relationships (Amato & Sobolewski, 2001; Collins, Cooper, Albino, & Allard, 2002; Seiffge-Krenke, Overbeek, & Vermulst, 2010). This means that the inherently codependent nature of these relationships has not been taken into account. However, according to family systems theory (Cox & Paley, 2003; Minuchin, 1974; Minuchin, 1985) it would be more adequate to perceive the family as a system comprised of several interdependent and mutually influential subsystems (e.g., the spousal and parent-child subsystems). Influence patterns between these subsystems are circular rather than linear in nature – one subsystem produces change in another which in turn affects the first one, a notion also known as the “spillover hypothesis” (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). As Lindahl and colleagues (1997, p.385) state, “virtually every study examining linkages between marriage and parenting found that the quality of parent-child relations and the quality of marital relationships are related within families”.

Marital hostility can affect subsequent parent-child interactions through the transfer of anger and tension to the parent-child dyad (Gerard, Krishnakumar, & Buehler, 2006; Ha, Overbeek, Vermulst, & Engels, 2009). Consequently, those low quality parent-child interactions can give rise to adolescent emotional and behavioral problems which may distress the marital relationship even further (Cui, Donnellan, & Conger, 2007). Recent studies have demonstrated bidirectional, prospective associations between marital dissatisfaction and parenting or the quality of the parent-child bond (Cui et al., 2007; Schermerhorn, Cummings, DeCarlo, & Davies, 2007). Given this circular mechanism, we hypothesized that the majority of families would be characterized by

continuously satisfactory marital bonds and affectively warm parent-child contact throughout childhood. For a minority of families, however, we hypothesized that the spillover phenomenon might have a dark side; these families would be characterized by a combination of pathological developments in both the marital and the parent-child dyad over time in childhood.

*Adolescent experiences: Peer worries and conflicts and quality of communication with parents*

In line with the view of development as cumulative, a maladaptive family system in childhood can lead to dissatisfaction with one's romantic relationship in emerging adulthood by affecting one's functioning in the subsequent developmental stage (i.e., adolescence). Yet, few studies adopt a birth-to-maturity perspective in the study of the precursors of successful romantic relationships. Many have rather focused on the transition from adolescence to adulthood (e.g., Collins, Cooper, Albino, & Allard, 2002; Conger et al., 2000; Seiffge-Krenke, Overbeek, & Vermulst, 2010; Seiffge-Krenke, Shulman, & Klessinger, 2001). In this paper, we examined two indirect developmental pathways, one through perceived conflicts and quality of communication with parents and the other through peer worries or the individuals' perception of belonging and fitting in with peers.

Positive early relational experiences within the family have been associated with more adequate social information processing (Crick & Dodge, 1994), which leads to the use of more effective and appropriate conflict resolution strategies (Finger, Eiden, Edwards, Leonard, & Kachadourian, 2010). In turn, parent-adolescent interactions – especially conflict situations that require social skills and the use of complex resolution behaviors – allow adolescents to develop the necessary skills for successful interpersonal relationships (Fagan & Iglesias, 1999). Preliminary evidence for such a sequence comes from studies showing that marital conflict is indirectly linked with subsequent adolescent maladjustment through parent-adolescent conflict (Gerard et al., 2006). Similarly, studies have shown that high-quality parent-child bonds and parents' marital quality are prospectively associated with higher quality peer interactions (Dekovic & Meeus, 1997; Schneider, Atkinson, & Tardif, 2001) which in turn predict romantic relationship satisfaction and effective conflict resolution strategies in romantic relationships (Dhariwal, Connolly, Paciello, & Caprara, 2009).

Peer worries and conflicts and low-quality of communication with parents may thus, function as linkage points in the prospective association between low-quality family experiences in childhood and romantic relationship dissatisfaction in emerging adulthood. In addition, the significance of adolescent relational experiences for later romantic relationship satisfaction may differ according to the quality of the earlier family relational climate. For instance, previous research on (early) adolescent samples have shown that problematic peer relations preceded by problematic family relationships are especially detrimental to subsequent adjustment (Lansford, Criss, Pettit, Dodge, & Bates, 2003; Rubin et al., 2004). Similarly, recent work has indicated that the combination between earlier parental rejection and low peer acceptance in adolescence is associated

with especially high internalizing and externalizing problems (Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010). In a similar fashion, potential risk factors in adolescence, both in the peer context – worrying about not fitting in, feeling isolated from one’s peer group – as well as in the parent-child relationship – frequent and intense conflicts, not being able to “level” with one’s parents about intimate topics – may be even more detrimental for later romantic relationship satisfaction in the case of low-quality family experiences in childhood.

### *The present study*

Using growth mixture modeling and linear regression analysis on prospective data from 212 Swedish individuals who were followed from childhood into emerging adulthood, we examined (1) whether two distinct childhood latent developmental classes could be identified, characterized by either a low quality marital bond and a low quality mother-child relationship (i.e., low-quality family experiences) or a high quality marital bond and a high quality mother-child relationship (i.e., high-quality family experiences). Also, we tested (2) whether these childhood developmental classes would predict conflicts and quality of communication with parents and peer worries in adolescence, and whether these in turn would predict dissatisfaction with romantic relationships in emerging adulthood. Finally, we examined (3) whether the effects of peer worries and conflicts and low-quality communication with parents on later romantic relationship (dis)satisfaction may vary as a function of the quality of childhood family experiences. We assumed that when cumulative effects were present – when low-quality childhood family experiences were followed by heightened peer worries and conflicts and low-quality communication with parents – the detrimental effects on romantic relationship satisfaction in emerging adulthood would be strongest. Because only the mothers of our participants were interviewed during the childhood assessments, in this paper we examined specifically the mother-child bond instead of relying on the mothers’ reports of the father-child bond.

## **5.2 Method**

### *Participants and procedure*

Data were gathered from a random sample of children born between 1955 and 1958 in Solna, a suburb of Stockholm, Sweden. Every fourth mother who visited the Solna Antenatal Clinic at Karolinska Hospital in this three year period was asked to participate in a long-term study on the development of children. Of all of the mothers who were asked to participate, only 3% refused. The sample was representative of Swedish children in urban settings and in most part, of Swedish children in general. For a more detailed description of the sample characteristics, see Karlberg et al. (1968).

Data were collected annually from the child’s first year up to the age of 18 during pre-scheduled visits to the Solna clinic in Stockholm. Those assessments were carried out close to the individual children’s birthdates ( $\pm 14$  days) in order to control for variations in respondents’ chronological age. Data consisted of responses given by the mother to



questions which were part of a longer social interview (which dealt, among other things, with the quality of the marital relationship and the parent-child relations). The interviewers were clinical psychologists or nurses with special training in pediatric work. The dataset had a multi-informant character because a number of questionnaires (assessing for example, peer worries and conflicts and quality of communication with parents) were filled out by the participants themselves at regular time intervals during their teenage years. Travel and stay expenses were covered by the research organization. Additionally, all participants received 500 Swedish crowns per assessment, which presently amounts to 53 euro or 72 U.S. dollars.

Most participants were from an indigenous Swedish background and grew up in families with varied socio-economic backgrounds. The sample consisted of 212 children (57.6% boys) who were followed from birth to the age of 37 (the last assessment was conducted in 1992). The participants were followed at regular time intervals, from birth to the age of 18. Two additional data collections were carried out, at age 25 and age 37. For the purposes of this study, we used the yearly data on the quality of mother-child and marital relationships for the 4-10 year period: 4 ( $n = 204$ ), 5 ( $n = 198$ ), 6 ( $n = 198$ ), 7 ( $n = 194$ ), 8 ( $n = 192$ ), 9 ( $n = 183$ ), and 10 ( $n = 181$ ). Additionally, we used the questionnaire data filled out by the participants at the ages of 15 ( $n = 174$ ), 16 ( $n = 179$ ), and 17 ( $n = 173$ ) about peer related worries and conflicts and quality of communication with parents, and questionnaire data about romantic relationship satisfaction at the age of 25 ( $n = 169$ ; 56.8% male; 79.7% of the initial sample). The selection of these time points was based on the focus of our research questions (i.e., on *childhood* family interactions, ages 4 to 10, through *adolescence*, ages 15 to 17, and to *emerging adulthood*, age 25). No significant differences were found between the participating and non-participating 25-year-olds with respect to peer worries ( $t(160) = 1.20$ , *ns*), conflicts and quality of communication with parents in adolescence ( $t(147) = -0.09$ , *ns*), or on composite measures spanning the 4-10 year period for the mother-child bond ( $t(173) = 0.34$ , *ns*) and marital bond ( $t(184) = 0.56$ , *ns*) in childhood.

### *Measures*

*Satisfaction with romantic relationship (age 25).* Romantic relationship satisfaction was measured with seven questions about interactions with the partner. These questions assessed the presence of conflict in the relationship ("Do you have conflicts about [alcohol, money] with your partner?"), shared interests and communication ("Do you and your partner share any interests?", "Do you talk about everything with your partner?"), sexual satisfaction ("Are you and your partner well adjusted to each other sexually?"), satisfaction with decision making dynamics ("Are you satisfied with how the important decisions are made in your relationship?"), and general satisfaction ("Do you enjoy your relationship with your partner?"). Questions were answered on 5-point Likert scales (1 = *low satisfaction* and 5 = *high satisfaction*). Internal consistency of the resulting scale was  $\alpha = .72$ . A shorter version of this scale was utilized by Overbeek and colleagues (2007) where evidence emerged for the predictive validity and construct validity of (the shorter version

of) this measure in that over a 12-year period there was a strong autoregression coefficient.

*Quality of the mother-child bond (ages 4 to 10).* The general affective quality of the mother-child relationship was assessed during the structured interview with the child's mother. The direct question on mother-child relations was, "How do you and your son (or daughter) get along?". Answers were coded on a 3-point scale, ranging from 1 = *bad*, 2 = *fair*, to 3 = *good*. This measure has been successfully employed in previous research (Overbeek, Stattin, Vermulst, Ha, & Engels, 2007), providing evidence in favor of its predictive validity. Table 5.1 shows Pearson correlations between the yearly measures of the quality of the mother-child and marital bond across the 4-10 year period. Year-to-year correlations for the mother-child relationship ranged from 0.40 ( $p < .001$ ) to 0.60 ( $p < .001$ ), demonstrating high stability in the quality of mother-child relations over time.

*Parents' marital quality (ages 4 to 10).* Parents' marital quality was assessed in the yearly structured interview with the mother, with the question "How do you and your husband get along?". The answer categories were the same as for the parent-child questions (1 = *bad*, 2 = *fair*, and 3 = *good*). Table 5.1 shows that the year-to-year correlations for the parent-parent relationship ranged from 0.58 ( $p < .001$ ) to 0.72 ( $p < .001$ ), showing a high stability of marital quality over time in childhood. Importantly, within year correlations between the measures employed to assess the mother-child and the marital bond ranged from .11 (*ns*) to .28 ( $p < .01$ ). As Table 5.1 shows, the within-year mother-reported parent-child and marital quality were only weakly correlated.

*Peer worries (age 15).* Adolescents' peer related worries were assessed with a questionnaire at age 15. The participants rated how preoccupied they felt about their relations with peers (e.g., "I worry about being left out of things", "I worry about not being popular", "I worry about not getting along well with my peers"). The 6 items were answered on a 5-point Likert scale (1 = *I almost never worry about this* to 5 = *I worry about this all the time*). Factor analysis demonstrated that all six items loaded on one factor "peer worries" which explained 62% of the variance ( $\alpha = 0.88$ ).

*Conflicts and quality of communication with parents (ages 15, 16, and 17).* Adolescent-reported conflicts and quality of communication with parents were assessed at ages 15, 16, and 17. Each of these years, the adolescents were asked the following two questions, separately for their mother and father, "Do you feel that you can always talk with your mother / father?" and "How frequently do you get into fights with your mother / father?". Scales for these items ranged from 1 = *I can always talk to her/him* and *Never, or very seldom conflict* to 5 = *I can never talk to her/him* and *Frequent conflict, do not get along together, often angry with each other*. The year-to-year stability of conflicts with mothers ranged from .47 ( $p < .01$ ) to .53 ( $p < .01$ ) and from .39 ( $p < .01$ ) to .52 ( $p < .01$ ) for fathers. The year-to-year stability of communication with mothers was .56 ( $p < .01$ ) and .43 ( $p < .01$ ) for fathers. The performed factor analysis for the mother-adolescent relationship (six items) demonstrated that all items besides the communication question at age 15, loaded on one factor which explained 51.3% of the variance. Similarly, all six items for the father-

adolescent relationship, besides the communication question at age 15, loaded on one factor which explained 46.9% of the variance. These two items were, therefore, excluded from the subsequent analyses. The two scales (for the mother-adolescent and father-adolescent relationships) were highly correlated ( $r = .53, p < .01$ ). Therefore, the scale for conflicts and quality of communication with parents was computed by taking the mean of the remaining 10 items ( $\alpha = .77$ ).

**Table 5.1**

*Means (SD) and Pearson Correlations for the Mother-Child Bond and Marital Quality*

	MC age 5	MC age 6	MC age 7	MC age 8	MC age 9	MC age 10	MQ age 4	MQ age 5	MQ age 6	MQ age 7	MQ age 8	MQ age 9	MQ age 10	Mean (SD)
MC age 4	.40**	.27**	.24**	.27**	.37**	.33**	.28**	.25**	.23**	.19**	.18*	.13	.21**	2.91 (.29)
MC age 5		.60**	.40**	.39**	.27**	.24**	.14	.19**	.30**	.24**	.14	.06	.14	2.84 (.39)
MC age 6			.54**	.34**	.40**	.39**	.11	.11	.18*	.16*	.04	.02	.09	2.88 (.36)
MC age 7				.53**	.56**	.36**	.06	.15*	.12	.11	.05	.05	.10	2.88 (.35)
MC age 8					.48**	.38**	-.01	-.02	.00	.08	.15*	.13	.15*	2.84 (.39)
MC age 9						.58**	.20**	.16*	.05	.09	.19*	.27**	.14	2.79 (.47)
MC age 10							.03	.07	.12	.11	.09	.12	.13	2.83 (.43)
MQ age 4								.64**	.32**	.40**	.35**	.37**	.29**	2.76 (.48)
MQ age 5									.58**	.61**	.47**	.55**	.41**	2.76 (.51)
MQ age 6										.70**	.56**	.48**	.52**	2.80 (.43)
MQ age 7											.67**	.48**	.53**	2.75 (.48)
MQ age 8												.72**	.57**	2.72 (.54)
MQ age 9													.70**	2.81 (.45)
MQ age 10														2.76 (.53)

*Note.* MC = Mother-Child Bond; MQ = Marital Quality; \* $p < .05$ . \*\* $p < .01$ .

*Analytical strategy*

The answering categories for both the mother-child and the parents' marital bond were recoded so that a high score reflected a low quality relationship. Using Growth Mixture Modeling (GMM) in Mplus, version 6 (Muthén & Muthén, 2010) we specified a parallel growth model so as to simultaneously estimate the two childhood trajectories (4-10 years) – the trajectories for the quality of the mother-child bond and for marital quality – and to integrate these trajectory parameters into one overall latent development classification (cf. Li, Barrera, Hops, & Fisher, 2002). The Growth Mixture Modeling can be seen as an advance cluster method. Persons with common growth patterns are “grouped together” to make up a group (Nagin, 1999). Resulting clusters can include increasers, decreasers, as well as, high and low groups of no change. We used the Sample Size Adjusted Bayesian Information Criterion (SSA-BIC) as a criterion for identifying the number of different trajectories. In addition, we checked whether accuracy of classification of individuals in latent classes was sufficient based on entropy – entropy with values approaching 1 indicate clear delineation of classes (Celeux & Soromenho, 1996). The clearly non-normal distribution of mother-child and marital quality data were taken into account by using Poisson modeling (i.e., mother-child bond and marital quality measures were treated as count-data) with Robust Maximum Likelihood (RML) estimation. For each participant, this estimation technique yielded a coefficient that specified the likelihood of belonging to a specific latent developmental class. This variable was specified as the basic predictor in the subsequent analysis.

In the next step, we aimed at demonstrating that no direct effect existed of the early relational climate on the (dis)satisfaction with one's romantic relationship in emerging adulthood but that it rather affected relations in adolescence which in turn affected the outcome at age 25. Therefore, we utilized the SPSS bootstrapping approach described by Preacher and Hayes (2008). This strategy was used because it is suitable for testing multiple intermediary variables simultaneously. The procedure uses original sample data as a population reservoir and generates  $k$  random samples ( $k$  is here 1,000) and estimates the total and specific indirect effects.

In the final step, we performed a linear regression analysis to test the association between the quality adolescent relations and (dis)satisfaction with one's romantic relationship in emerging adulthood. This model also included interactions between latent class membership and the adolescent measures (peer worries and conflict and quality of communication with parents), as well as an interaction term between peer worries and parent-adolescent conflict and quality of communication. To facilitate interpretation and give an impression of the strength of the significant interactions, we wrote out multiple equations using simple slope analysis (Aiken & West, 1991), with high and low levels of the predictors indicating one standard deviation above and below the mean, while holding all other variables to the sample mean.

### 5.3 Results

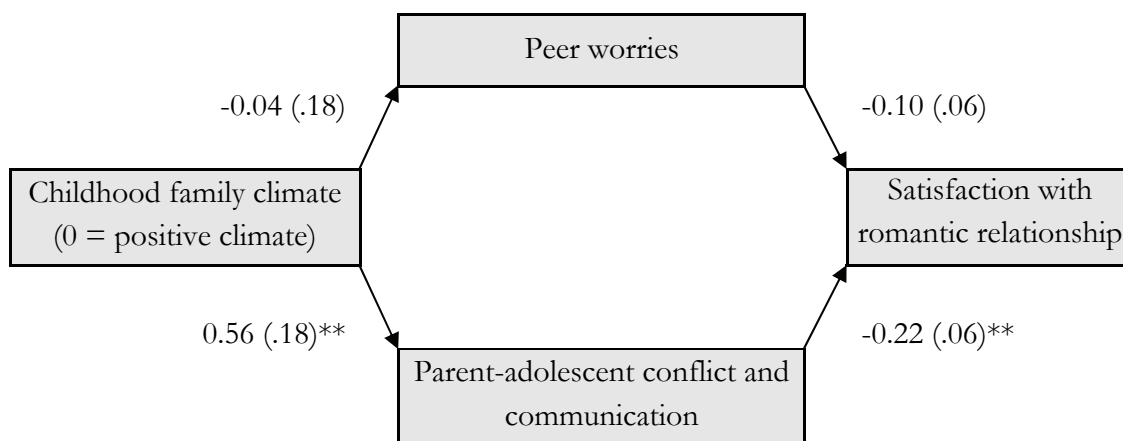
Of the 169 individuals participating in the Solna study at age 25, 139 were involved in a romantic relationship at that age and provided information about its quality. No gender differences were found in the likelihood of being involved in a romantic relationship ( $\chi^2(169) = 1.45, ns$ ) or the reported satisfaction with the quality of this relationship ( $t(112) = .72, ns$ ). In general, both male and female participants were relatively satisfied with their romantic relationship,  $M = 3.56$  (min-max: 1-5),  $SD = 0.67$ . In adolescence, females scored higher than males on self-reported peer worries ( $M = 2.07$  and  $M = 1.80$ , respectively,  $t(118) = -1.95, p = .05$ , equal variances not assumed) but no gender differences were found for conflict and quality of communication with parents ( $t(163) = -1.58, ns$ ;  $M = 2.88, SD = 0.68$ ). Participants with a romantic partner at age 25 did not differ from those without a partner on parent-adolescent conflict and quality of communication ( $t(156) = 0.01, ns$ ) or peer worries in adolescence ( $t(152) = -0.30, ns$ ).

#### *Growth mixture models: Mother-child and marital quality trajectories*

We integrated the mother-child bond and marital quality trajectories into one overall latent development classification. The results demonstrated that a 2-class solution fit the data best (SSA-BIC = 2284.54, entropy = .74). The first latent developmental class, to which 68.8% of the sample was assigned ( $n = 141$ ), was characterized by a stable high quality mother-child bond that went together with a stable high-quality marital bond. Other participants (31.2 % of the sample,  $n = 63$ ) fell into a second developmental class, characterized by a stable, lower quality of the mother-child bond and marital quality. Based on this analysis, all participants in the dataset received a score reflecting his or her assignment to a most likely developmental class (a score of 0 reflected membership of the “positive” family trajectory class, a score of 1 reflected membership of the “negative” family trajectory class). These scores were then used as input for further analyses.

#### *Testing the cumulative effects hypothesis*

In the next step of the analyses, we used the SPSS macro of Preacher and Hayes (2008) to test the indirect effect of the early relational climate on the adolescent measures and in turn, their effect on (dis)satisfaction with one’s romantic bond at age 25. As expected, the direct effect of the early relational climate on the quality of one’s romantic relationship in emerging adulthood was not significant when entered alone ( $\beta = -.04, ns$ ). However, when we entered the adolescent measures in the model (see Figure 5.1), we found that belonging to the “negative” family trajectory class significantly increased the likelihood of parent-adolescent conflict and low-quality communication which in turn decreased the participants’ satisfaction with their romantic relationships. We did not find evidence of a similar indirect effect through peer worries. Overall, the model explained 13% of the variance in romantic relationship satisfaction.



**Figure 5.1** Point coefficients and standard errors for indirect effects of latent development classification on (dis)satisfaction with romantic relationship,  $N = 131$ .

#### *Testing possible interaction effects*

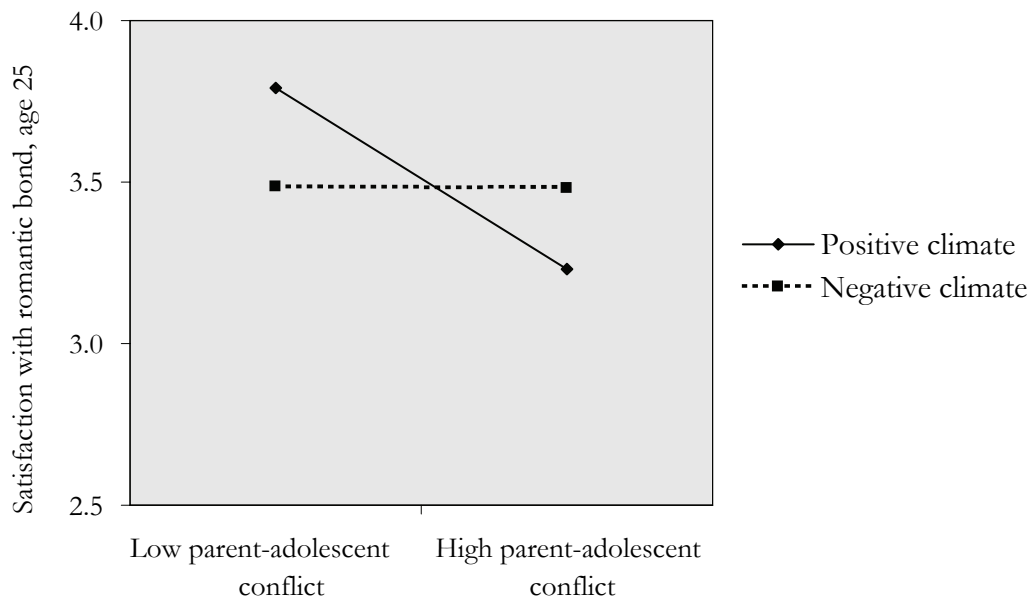
In the final step of our analyses, we tested the proposed interaction effects of the early relational climate by the adolescent measures and whether these adolescent measures possibly buffered each other's effects. Though the two adolescent measures were correlated ( $r = .20$ ,  $p < .05$ ), there were no problems with multicollinearity. The variance inflation factor (VIF) indicates for each predictor the strength of the linear relationship with the other predictors. Tolerance statistics are equal to  $1/\text{VIF}$ . According to Menard (1995), tolerance values below .20 are worthy of concern as they indicate that multicollinearity is possibly biasing the regression model. In our model, the lowest tolerance value was .45. As can be seen in Table 5.2, only the main effect of parent-adolescent conflict and low-quality communication on emerging adults' satisfaction with their intimate relations was significant. Two of the three tested interaction effects reached significance – between developmental class membership and parent-adolescent conflict and low-quality communication and between developmental class membership and peer worries. These interactions are plotted in Figures 5.2 and 5.3. As can be seen in Figure 5.2, parent-adolescent conflict and low-quality communication was not detrimental to the subsequent satisfaction with romantic bonds for those who came from a low-quality early relational climate ( $b = -0.01$ ,  $SE = 0.12$ ,  $ns$ ). However, parent-adolescent conflict and low-quality communication between the ages of 15 and 17 was harmful to the quality of future intimate relations for adolescents from adequately functioning families ( $b = -0.28$ ,  $SE = 0.07$ ,  $p < .01$ ). In contrast, peer worries were found to be particularly damaging for the romantic relationship satisfaction of participants who had experienced a low-quality early relational climate ( $b = -0.35$ ,  $SE = 0.12$ ,  $p < .01$ ) but not for those from families with a high-quality early relational climate ( $b = -0.05$ ,  $SE = 0.07$ ,  $ns$ ). As can be seen in Figure 5.3, the absence of peer worries in adolescence was associated with higher quality romantic relationships for those who experienced low-quality relationships in childhood. We also tested for a possible three-way interaction between the quality of the early relational climate and the two adolescent measures but that was not significant. This is not necessarily a surprising finding in light of our sample size.

**Table 5.2**

*Parameter Estimates for Regression Analysis Predicting Satisfaction with Romantic Relationships in Emerging Adulthood (N = 131)*

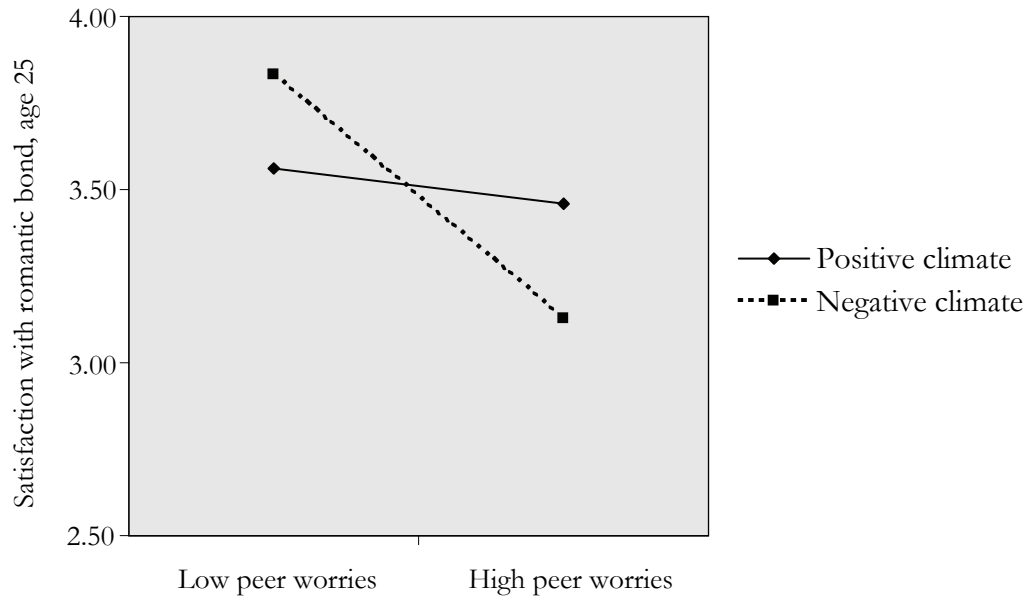
	<i>B (SE)</i>	95% CI
Childhood family climate (CFC; 0 = positive climate)	-0.03 (0.13)	-0.29 – 0.22
Peer worries	-0.05 (0.07)	-0.20 – 0.09
Parent-adolescent conflict and communication	-0.28 (0.07)***	-0.42 – -0.13
CFC x Peer worries	-0.30 (0.14)*	-0.58 – -0.02
CFC x Parent-adolescent conflict and communication	0.27 (0.14)*	0.001 – 0.54
Peer worries x Parent-adolescent conflict and communication	0.12 (0.06)	-0.01 – 0.25
<i>Constant</i>	3.51 (0.07)***	
$R^2$	0.18	
$F(6, 124)$	4.65***	

*Note.* \*  $p \leq .05$ . \*\* $p < .01$ .



**Figure 5.2** *Childhood family climate by parent-adolescent conflict and communication interaction.*





**Figure 5.3** *Childhood family climate by level of peer worries interaction.*

#### 5.4 Discussion

This paper examined whether combined childhood trajectories of the quality of the marital and the parent-child bonds predicted (dis)satisfaction with one's romantic relationship in emerging adulthood. Analyzing data from 212 Swedish mothers and their offspring, who were followed from childhood into emerging adulthood, we found that a combined childhood trajectory of low marital quality and a negative mother-child bond predicted conflict and low-quality communication with parents in adolescence, which in turn predicted dissatisfaction with one's romantic relationship in emerging adulthood. Additionally, we showed that the effect of adolescent relational experiences on later romantic relationship (dis)satisfaction varied as a function of childhood experiences. More specifically, heightened peer worries in adolescence were particularly damaging to emerging adults' romantic relationships for those from families with a low-quality childhood relational climate. In contrast, experiencing elevated parent-adolescent conflict was detrimental to the quality of the romantic bond at age 25 only for the children from the high quality family interactions trajectory.

Our results showed that there was no direct link between negative childhood family interactions and romantic relationship dissatisfaction in emerging adulthood. As expected, we found evidence to support a specific indirect developmental sequence from low-quality relational climate in childhood to parent-adolescent conflict to dissatisfaction with romantic relationships in emerging adulthood. However, such an indirect pathway did not emerge for peer worries in adolescence. At first sight, this finding may seem to contradict previous findings on the importance of peer relationships for adolescents' and emerging adults' love life (Collins & Van Dulmen, 2006; Dhariwal et al., 2009). However, it is important to acknowledge that in contrast to other studies, we did not examine the quality of best friendships but rather perceptions of "not fitting in" with the peer group,

which related more to individual feelings of isolation and loneliness. Also in contrast to many earlier studies, we controlled the predictive “effect” of experiences in the peer context for the concurrent quality of parent-adolescent interactions (i.e., conflict). Previous research that followed a similar approach also indicated that adolescent peer relationships were unrelated to adult romantic bonds once quality of family relations was controlled (Seiffge-Krenke, Shulman, & Klessinger, 2001).

Another central finding that emerged from our analyses is that negative childhood family interactions that were followed by negative experiences with peers in adolescence were more strongly predictive of romantic relationship dissatisfaction in emerging adulthood. In contrast, whenever these children went on to have positive relationship experiences with respect to peers in adolescence, coming from a low-quality family relational climate was not associated with romantic relationship dissatisfaction in adulthood. Thus, later positive social experiences may offset the detrimental effect of growing up in a negative family environment as a child. This finding is in accordance with previous research that showed that the effects of problematic family relationships on later social-emotional development can be mitigated by positive peer relationships (Lansford et al, 2003; Rubin et al., 2004; Sentse et al., 2009). This finding with respect to the effect of peer worries provides evidence for a cumulative pathways model (Bowlby, 1973; Sroufe, Coffino, & Carlson, 2010) because they make clear that early adversity in itself does not necessarily have a strong pathogenic effect. It is only when stressful experiences cumulate across subsequent developmental phases and across relationship contexts that a maladaptive social-emotional development may be implied. Interestingly, heightened parent-adolescent conflict was damaging for the quality of romantic relations at age 25 only for the children from families with a high-quality relational climate but not for those with low-quality relations. This means that parent-adolescent conflict and low-quality communication had an effect on relationship functioning in emerging adulthood but not when there was a history of low-quality family relationships in childhood (in which case it added little to the already negative family climate and thus, adding little predictive power). For adolescents from families with high-quality relational climate peer worries could be less detrimental to their future romantic relations because of the greater social support that they might be getting at home. This is in line with work which has shown that the association between stressful life events and depression is weaker for those who reported a closer parent-adolescent bond (e.g., Ge, Natsuaki, Niederhiser, & Reiss, 2009).

It is crucial to note that the present results cannot be simply interpreted as clear socialization effects. There is no way of knowing, specifically, to what extent child effects may have driven the current outcomes. A low quality mother-child bond, or even a confliction marital relationship, may at least partly be a consequence of children’s behavior problems or other psychopathology (Cui, Donnellan, & Conger, 2007; Kerr, Stattin, Biesecker, & Ferrer-Wreder, 2003). Also, children’s difficult temperament or low sociability may act as a confounding variable in explaining the relationship between the childhood family relationship climate and dissatisfaction with one’s romantic relationship

in emerging adulthood. More specifically, “difficult” children will be hard to handle by parents and will put strain on the marital relationship, and when grown into “difficult” adults their temperament may similarly be an obstacle for building a satisfactory, harmonious pattern of interactions with their intimate partner. Although the Solna dataset did contain information about individuals’ temperament, the sample size did not allow us to conduct multigroup analyses based on participants’ temperament characteristics; such an analysis would be underpowered. For a similar reason, we also did not run a multigroup analysis for gender (preliminary correlation analyses did not show significant sex differences).

The results from this study attest to the notion of cross-relationship continuity, both concurrently within families (i.e., across the marital and mother-child dyad) and prospectively over different types of relationships (i.e., continuity from parent-adolescent conflict to dissatisfaction with one’s romantic relationship). More specifically, we identified two separate childhood family trajectories that reflected a continuous spillover of affect – either positive or negative – between the marital and mother-child dyads. The stability of these spillover patterns is emphasized even more strongly by the fact that in some families the marital partner, whom the mother reported on, changed over time. So, even in those families that went through a change of maternal partner ( $n = 16$ ), and consequently had one of the parents leaving and a stepparent entering the family, there was a continuously high spillover between the family subsystems. In this study, cross-relationship continuity was established prospectively and over a relatively long time interval. Across an eight year time interval, romantic relationship dissatisfaction at age 25 was predicted by earlier parent-adolescent conflict ages 15-17. This extends previous findings that already made clear that youths reared in households characterized by warmth and promotion of autonomy will develop more satisfactory intimate relationships in adulthood (Feldman, Gowen, & Fisher, 1998) and perceived relationship satisfaction (Kane et al., 2007).

This study is a unique, childhood-to-maturity prospective examination of cumulative effects from the family relational climate in childhood to peer worries and parent-adolescent conflict and low-quality communication in adolescence, to dissatisfaction with one’s romantic relationship in emerging adulthood. Still several limitations warrant attention. First, the sample studied is relatively old – data collection started in the 1950s – this means that possibly the experiences for this specific cohort cannot be generalized to individuals’ experience in the present. However, even if in the 50’s and 60’s parenting was more authoritarian, or marital relationships were more distant, affectively – although we know of no direct cohort-comparing studies in this regard – that would not lead to different correlational findings, *per se*. Second, we relied on data from the mothers in assessing the affective quality of both the marital and mother-child dyad. Thus, reporter bias may have led us to slightly overestimate the correlated developments in the parent-child and marital family subsystems. This can never be more than a slight overestimation, however, as the strength of the within-year correlations between mothers’ reports of the two dyad types was limited. In addition,

previous research has shown that maternal “perceiver effects”, in which mothers judge different relationships within a family (mother-father, mother-child) in terms of its support, were small (Branje, Van Aken, & van Lieshout, 2002). Third, the present study had limited power. Our sample size for the final analysis on possible interactions between the childhood and adolescent measures was 131 which should be kept into consideration when examining the findings of our work. For example, the sample size precluded us from examining possible differences across gender, SES, and temperament backgrounds. Therefore, before we can draw any definite conclusions, it is absolutely required that the present results are replicated in larger childhood-to-maturity samples. Yet, though some of our insignificant findings might be due to the small number of participant, it is still important to note that studies based on larger datasets have also demonstrated that no direct link exists between the quality of relations in childhood and romantic functioning in adulthood (e.g. Flouri & Buchanan, 2002).

In keeping with a family systems perspective, this study shows that spillover of emotions between the marital and parent-child dyad has a Jekyll and Hide variant. For most families a happy marriage and satisfactory parent-child bond go hand in hand, but a small minority is characterized by stable, relatively problematic interactions in both family subsystems. Children who grow up in the latter type of family have more arguments and problems communicating with their parents in adolescence, and subsequently are more likely to establish unsatisfactory romantic relationships as emerging adults. However, our work demonstrated that this process is certainly not set in stone; later positive experiences with peers can offset the detrimental effect of growing up in a “house on fire”.



English Summary ♦ Dutch Summary

References

A Word of Thanks

TRAILS Dissertation Series

ICS Dissertation Series



# Summary

Until recently, researchers operated under the assumption that romantic relationships in adolescence were too transient and inconsequential to render further investigations (Collins, 2003). Romance was largely viewed as an “adult” phenomenon and in an era of rapidly increasing rates of union dissolution (Amato, 2010; Latten & de Graaf, 2010), substantial research has been conducted into the causes and consequences of this trend. However, it is precisely in the context of a rise in multiple and unstable relationships, that the early romantic bonds may be pivotal to our understanding of subsequent intimate relations. After all, to a large extent the meaningfulness of adolescence lies in the fact that in this period earlier childhood experiences are translated into later competencies and statuses and the transition into adulthood is set up (Steinberg & Morris, 2001).

Empirical work has established the significance of romantic relationships for both youth’s and adults’ well-being. Accordingly, understanding the developmental precursors of the ability to establish and maintain successful romantic relationships is essential (Conger, Cui, Bryant, & Elder, 2000). Current research has recognized that the quality of the parental marital bond and parent-child interactions are of key importance for later romantic relationships (Seiffge-Krenke, Shulman, & Klessinger, 2001). Following this line of research, the main focus of this dissertation is on the significant life course transition of entering into a romantic relationship in adolescence and how this transition can be affected by family relations and events (*Chapters 2, 3, and 4*). Finally, we present a birth-to-maturity perspective on the developmental precursors of emerging adults’ (dis)satisfaction with romantic relationships (*Chapter 5*). We rely on self-reported involvement with a romantic partner to serve as the definition of a romantic relationship and adopt a life course approach to the study of human development as a heuristic framework (Elder, 1985; Elder & Shanahan, 2006).

In *Chapter 2*, we focus on understanding who early dating adolescents are with respect to their perceptions of parenting behaviors and several key individual level characteristics. This first empirical chapter establishes if the family climate and early adolescent romantic relationships are related as expected based on our heuristic framework. Furthermore, understanding who is likely to engage in such intimate bonds in early adolescence can help explain why these relations can, at times, be associated with negative outcomes. *Chapter 3* focuses on how a significant parental transition, which can affect the family environment, influences the propensity to initiate dating. We focus on the effect of parental divorce on the transition to adolescents’ first romantic relationships and whether the effect is moderated by the age of the adolescent at the time of the union dissolution. *Chapter 4* extends the work in the previous chapter by acknowledging that the experience of a parental divorce is much more than a single event but that it rather involves a number of parental transitions. We examine if specific parental residential and re-partnering events can *trigger* a romantic relationship in adolescence while also



accounting for the family composition at the entry into adolescence. Finally, in *Chapter 5*, we study the developmental precursors of emerging adults' (dis)satisfaction with their romantic relationships by investigating the *cumulative* effect of the early relational climate within the family. We do not take a "snapshot approach", where a starting point is linked to a developmental end point. Rather, we examine a specific sequence in which childhood family interactions predict worries about peer relations and parent-adolescent conflict in adolescence that, in turn, predict individuals' (dis)satisfaction with romantic relationships in emerging adulthood.

We make use of two longitudinal data sources. The first three chapters focus on the period from pre- to mid-adolescence and utilize the Dutch TRacking Adolescents' Individual Lives Survey (TRAILS; De Winter et al., 2005; Huisman et al., 2008). The final chapter examines long-term prospective associations, making use of the Swedish Solna study (Karlberg et al., 1968).

In *Chapter 2*, we found that, as expected, youth who scored higher on preadolescent pubertal maturation, the need for high-intensity pleasure, and perceived parental rejection, and lower on shyness were more likely to have early dating experience. Earlier work has shown that less socially inhibited and more physically mature adolescents are more likely to be successful with peers and to have dating experience (Friedlander, Connolly, Pepler, & Craig, 2007; Sanson, Hemphill, & Smart, 2004). Our findings with respect to the individual characteristics of early dating adolescents therefore, support existing research. The striking finding of this chapter, however, relates to the perception of parents' rearing behaviors. As expected, based on the assumptions of Interdependence theory (Kelley & Thibaut, 1978), we found that experiencing one's parents as rejecting was associated with higher odds of dating even irrespective of one's temperament characteristics such as the need for high-intensity pleasure. We interpret this as an indication that romantic relationships at that age could serve a "compensatory" function. Though romantic partners and parents could be sources of different kinds of intimacy and companionship, it appeared that when adolescents' fundamental need for belongingness and intimacy (Baumeister & Leary, 1995) was not met within the family, they searched for alternatives elsewhere.

As expected, in *Chapter 3* we found that adolescents who experienced a parental divorce progressed to their first romantic relation faster than adolescents from intact families. Furthermore, this effect was highly time-specific. Only the divorces which took place in early adolescence sped up the transition to dating. The experience of a parental marital dissolution in preadolescence or mid-adolescence did not have a significant effect. This finding was in line with the work on heightened sensitivity to stress during transition periods (Graber & Brooks-Gunn, 1996). During early adolescence, youth go through a number of physiological and social transitions (onset of puberty, transition to high-school). Therefore, this could also be the time when adolescents and their behaviors are most affected by a parental union dissolution.

In *Chapter 4* we examined whether key transitions that can accompany parental relational dissolution (a parental move out of the household and the subsequent paternal and maternal re-partnering) could *trigger* romantic relationships in adolescence. We found that only the initiation of a new romantic relationship by the mother (but not by the father) triggered the initiation of a romantic relationship. This was in line with our expectations that the mother's dating behaviors would be more influential than the father's and can possibly result of the fact that about 85% of Dutch children stay with their mothers after parental union dissolution (de Graaf, 2008). Our second key finding was that whereas residing in a stepparent family increased the adolescent propensity to date, coming from a single-parent household actually decreased it. The latter result is particularly interesting in light of reports that residing in a single-parent family is associated with a higher likelihood of being in a dating relationship and the overall number of relationships for adolescents (Cavanagh, Crissey, & Raley, 2008), greater odds of early cohabitation for young adults (Ryan, Franzetta, Schelar, & Manlove, 2009), and increased risk of teenage pregnancy (Teachman, 2004). Our finding likely points to the different contexts in which Dutch and US single-parent families are embedded. For example, in the Netherlands only a very small percentage of single-parents work full-time (Portegijs, Cloin, Ooms, & Eggink, 2006). In comparison, about half of all custodial parents in the United States work full-time, year-round (Grall, 2009). These markedly different economic circumstances inevitably affect not only a number of parenting behaviors (e.g., knowledge of the adolescents' whereabouts) but also the quality of the family climate. As we showed in *Chapter 2*, adolescent perceptions of the parent-child bond certainly matter when the adolescent's propensity to date is concerned.

In the final chapter of this dissertation, *Chapter 5*, we looked beyond adolescence and focused on the impact of the early relational climate on the quality of emerging adults' intimate bonds. As expected, we identified two developmental classes of similar quality marital and parent-child bonds. In line with a cumulative pathways model of development (Bowlby, 1973), we found that a combined childhood trajectory of low marital quality and a negative mother-child bond predicted conflict and low-quality communication with parents in adolescence, which *in turn* predicted dissatisfaction with one's romantic relationship in emerging adulthood. This cross-relationship continuity could be due to a number of factors such as the acquisition of better interpersonal skills when reared in a warm and nurturing environment (Feldman, Gowen, & Fisher, 1998) and also more successful conflict resolution strategies (Olsen, Parra, & Bennett, 2010; Simon & Furman, 2010). Additionally, we showed that adolescent relational experiences mattered in the pathway from childhood to emerging adulthood experiences. For example, low peer worries buffered the effect of early adversity for those from families with low-quality early relational climates. In other words, early experiences have an indirect impact on later functioning through the initiation of a specific developmental sequence or a chain of events (Sroufe, Coffino, & Carlson, 2010). Yet, development across the life-course is not strictly linear and any moment in life can serve as a potential turning point.

An important point needs to be made when considering the implications of our work. Though we establish a clear link between family experiences and the initiation of adolescent romantic relations, we are unable to draw conclusions about the quality of these intimate bonds. It is possible that when adolescents initiate dating relations as a mean to avoid certain unpleasant situations at home, they do so before being “ready” for such a bond or with an insufficient set of skills to properly function within it. Such negative first romantic experiences might be detrimental to future intimate relations. This however, is speculative and future work should also consider the *quality* of adolescent romantic bonds.

# Samenvatting

Pas recent heeft de wetenschap de aanname achter zich kunnen laten dat romantische relaties van adolescenten van voorbijgaande en daarmee van consequenteloze aard zijn (Collins, 2003). Romantiek werd tot voor kort gezien als iets voor ‘volwassenen’ en in een tijdperk waarin het aantal ouderlijke scheidingen fors toeneemt (Amato, 2010; Latten & de Graaf, 2010) is er veel aandacht besteed aan de oorzaken en gevolgen van het mislukken van huwelijken. Het is in deze context - van in toenemende mate instabiele relaties – dat romantische ervaringen op jongere leeftijd van mogelijk cruciaal belang zijn om de sequentie van intieme relaties over de gehele levensloop te begrijpen. Ervaringen op jonge leeftijd laten zich vertalen naar relationele competenties op latere leeftijd en daarmee naar relationele status. De wetenschappelijke betekenis van de adolescentie is immers het volbrengen van de transitie naar volwassenheid (Steinberg & Morris, 2001).

Divers empirisch onderzoek heeft aangetoond dat romantische relaties voor zowel jongeren als ouderen invloed hebben op de gezondheid. Dienovereenkomstig is ons begrip van indicatoren die de vaardigheid om succesvolle romantische relaties aan te gaan en te onderhouden essentieel (Conger, Cui, Bryant, & Elder, 2000). In dit kader onderkennen wetenschappers de binding tussen ouders onderling en de interacties tussen ouder en kind als essentiële ervaringen voor latere romantische relaties (Seiffge-Krenke, Shulman, & Klessinger, 2001). Bouwend op deze onderzoekstraditie is de focus van deze dissertatie op het belang van de – in een levensloopperspectief essentiële – transitie naar ‘een romantische relatie tijdens de adolescentie’ en hoe deze transitie kan worden beïnvloed door relaties en gebeurtenissen in het gezin (hoofdstuk 2,3 en 4). Tot slot, presenteren wij een van-geboorte-tot-volwassenheid perspectief met betrekking tot de (on)tevredenheid met romantische relaties door jongvolwassenen (hoofdstuk 5). Wij vertrouwen op zelf gerapporteerde romantische relaties als maat voor een romantische relatie en hanteren als heuristisch raamwerk een levensloopbenadering die is gericht op de studie van menselijke ontwikkeling (Elder, 1985; Elder & Shanahan, 2006).

In *hoofdstuk 2* wordt dieper ingegaan op het ontwikkelen van begrip voor *wie* de adolescenten met een relatie op jonge leeftijd zijn: hoe is hun relatie met hun ouders en wat voor individuele eigenschappen hebben ze? Wij verwachten - op basis van ons heuristisch raamwerk - dat gezinsrelaties en de relaties van adolescenten op jonge leeftijd aan elkaar gerelateerd zijn en het eerste hoofdstuk onderzoekt deze vraag empirisch. Dergelijk begrip - van *wie* de grootste kans loopt om op jonge leeftijd verkering te krijgen – biedt tevens de kans om te verklaren waarom deze relaties, soms, negatieve uitwerkingen hebben. *Hoofdstuk 3* legt vervolgens de nadruk op hoe een belangrijke transitie van de ouders, invloed heeft op de neiging van adolescenten om vroeg intieme relaties aan te gaan. We leggen hierbij het accent op de gevolgen van een scheiding door de ouders voor het aangaan van een eerste verkering door adolescenten en onderzoeken ook tot op welke hoogte dit effect beïnvloed wordt door de leeftijd van de adolescent

tijdens het uiteenvallen van de ouderlijke relatie. Hoofdstuk 4 bouwt voort op het werk van het voorafgaande hoofdstuk bij wijze van erkenning dat een scheiding veel meer dan één enkel moment omhelst en in werkelijkheid een aantal transities in de relatie van de ouders omvat. Hier wordt onderzocht of specifieke momenten – zoals het verhuizen van één van de ouders of het vinden van een nieuwe partner door een van de ouders – een romantische relatie bij adolescenten kan *triggeren*. Hierbij houden we rekening met de gezinscompositie wanneer de adolescentie bereikt wordt. Tot slot, in *hoofdstuk 5*, bestuderen we de ontwikkelingsindicatoren van jongvolwassene en hun (on)tevredenheid met romantische relaties door expliciet te kijken naar het *cumulatieve* effect van het relationele klimaat in het gezin. Hierbij hanteren we geen ‘snapshot benadering’ (waarbij het startpunt wordt verbonden aan een eindpunt later in de ontwikkeling) maar onderzoeken we de voorspellende waarde van een specifieke sequentie waarin gezinsinteracties tijdens de kindertijd hebben plaatsgevonden. In dit hoofdstuk onderzoeken we of zowel adolescenten hun zorgen over relaties met leeftijdsgenoten als conflicten tussen ouders en adolescenten de individuele (on)tevredenheid met romantische relaties voorspellen voor jongvolwassenen.

We maken gebruik van twee longitudinale datasets. De eerste drie hoofdstukken zijn gefocust op de periode van pre-adolescentie tot mid-adolescentie en maken gebruik van de Nederlandse TRacking Adolescents’ Individual Lives Survey (TRAILS; De Winter et al, 2005; Huisman et al, 2008). Het laatste hoofdstuk onderzoekt prospectieve lange-termijnverbanden en maakt daarvoor gebruik van data afkomstig van de Zweedse Solna studie (Karlberg et al, 1968).

*Hoofdstuk 2* laat zien dat jongeren een grotere kans hebben om relaties aan te gaan op relatief jonge leeftijd wanneer zij hoog scoren op preadolescente puberale ontwikkeling, een verhoogde behoefte aan sensatie hebben, minder verlegen zijn en wanneer zij afwijzing ervaren door de ouders. Aangezien eerder onderzoek reeds heeft laten zien dat sociaal minder vaardige en fysiek meer volwassen adolescenten een grotere kans hebben om succesvol te zijn in de omgang met leeftijdsgenoten en in het krijgen van verkering (Friedlander, Connolly, Pepler, & Craig, 2007; Sanson, Hemphill, & Smart, 2004), sluiten onze bevindingen aan bij bestaand onderzoek. Een verrassend resultaat van dit hoofdstuk is gerelateerd aan hoe adolescenten tegen het opvoedkundige gedrag van de ouders aankijken. Zoals verwacht, op basis van aannames uit de afhankelijkheidstheorie (Interdependence theory, Kelly & Thibautm 1978) vonden wij dat de ervaring van een ‘afwijzende ouder’ is gerelateerd aan een grotere waarschijnlijkheid tot deelname in een romantische relatie door de adolescent en dit effect treedt zelfs op wanneer het in isolatie van temperament gerelateerde karakteristieken – zoals de behoefte aan sensatie – gezien wordt. Wij interpreteren deze bevinding als een indicatie dat romantische relaties op deze leeftijd als “compensatie” worden aangegaan. Hoewel het niet valt te ontkennen dat romantische partners een verschillende soort intimiteit en kameraadschap bieden dan ouders, lijkt het erop dat een adolescent die niet wordt bevredigd in fundamentele behoeftes zoals gebondenheid en intimiteit (Baumeister & Leary, 1995) buitenshuis op zoek gaat naar een alternatief.

Zoals verwacht, komt in *hoofdstuk 3* naar voren dat adolescenten die een scheiding van de ouders hebben meegemaakt sneller aan een romantische relatie beginnen dan adolescenten in intacte families. Dit effect is overigens sterk tijdsspecifiek: alleen de ervaring van een scheiding in het begin van de adolescentie versnelt de transitie naar de eerste relatie. De ervaring van een scheiding door ouders tijdens de pre-adolescentie of de mid-adolescentie heeft geen significant effect. Deze belangrijke bevinding kan mogelijk begrepen worden in het licht van academisch werk dat zich bezighoudt met verhoogde gevoeligheid voor stress tijdens transitieperiodes (Graber & Brooks-Gunn, 1996). Jongeren gaan tijdens de vroege adolescentie door een aantal psychologische en sociale transities (bijvoorbeeld het begin van de pubertijd, de transitie naar de middelbare school). Deze transities zouden een sensitieve periode kunnen markeren waarin het gedrag van adolescenten het meest wordt beïnvloed door een ouderlijke scheiding.

*Hoofdstuk 4* onderzocht in welke mate belangrijke transities die samengaan met veranderingen in de leefsituatie van de ouders (zoals het verhuizen van één van de ouders en het vinden van een nieuwe partner door één van de ouders) een romantische relatie bij adolescenten kunnen *triggeren*. In dit kader vonden wij een dergelijk effect alleen voor het ontstaan van een nieuwe relatie van de moeder (niet van de vader). Deze bevinding was in lijn met onze verwachting dat relaties van de moeder meer invloedrijk zijn dan die van de vader. Dit is mogelijk een gevolg van het feit dat ongeveer 85% van de Nederlandse kinderen bij hun moeder blijft na een ouderlijke scheiding (de Graaf, 2008). Een tweede hoofdbevinding was dat, hoewel het leven met een stiefouder de kans op een intieme relatie bij de adolescent vergroot, het leven in een één-oudergezin deze kans in werkelijkheid *verkleint*. Deze laatste bevinding is opvallend omdat er verschillende rapportages de ronde doen waarin het leven in een één-oudergezin juist positief gerelateerd is aan het totaal aantal relaties van adolescenten (Cavanagh, Crissey, & Raley, 2008), een toegenomen waarschijnlijkheid van vroeg samenwonen door jongvolwassenen (Ryan, Franzette, Schelar, & Manlove, 2009) en een toegenomen risico op tienerzwangerschap (Teachman, 2004). Als zodanig wijst onze bevinding waarschijnlijk op de sterk verschillende contexten waarin Nederlandse en Amerikaanse één-oudergezinnen zich bevinden. In Nederland, ter illustratie, werkt maar een klein percentage van de alleenstaande ouders voltijds (Portegijs, Cloin, Ooms, & Eggink, 2006), terwijl in de Verenigde Staten ongeveer de helft van de verzorgende ouders (gedurende het gehele jaar) voltijds werkt (Grall, 2009). Deze prominente verschillen in economische omstandigheden beïnvloeden onvermijdelijk niet alleen een verscheidenheid aan ouderlijk gedrag (bijvoorbeeld de mate waarin ouders op de hoogte zijn van waar hun kinderen zich overdag bevinden), maar ook het algemene klimaat in het gezin en zoals we gezien hebben in *hoofdstuk 2*, zijn ouder-kind relaties belangrijk voor het relatiegedrag van jongvolwassenen.

In het laatste hoofdstuk (*hoofdstuk 5*) onderzochten wij de invloed van het vroeg relationele klimaat in het gezin op de kwaliteit van de intieme relaties van jongvolwassenen. Zoals verwacht, identificeerde wij twee groepen van respectievelijk hoge kwaliteit en lage kwaliteit huwelijksbindingen en ouder-kind relaties. In lijn met ons

cumulatief-ontwikkelingspadperspectief (Bowlby, 1973), vonden wij dat de combinatie van een slecht ouderlijk huwelijk en een negatieve moeder-kind relatie tijdens de kindertijd, samen een lage kwaliteit van communicatie tussen ouders en kind tijdens de adolescentie voorspellen, wat op zijn beurt weer voorspellende waarde blijkt te hebben voor ontevredenheid met de kwaliteit van romantische relaties tijdens de jongvolwassenheid. Deze crossrelationele continuïteit kan verschillende oorzaken hebben, waaronder het onvoldoende opdoen van sociale vaardigheden en conflict oplossend vermogen (Olsen, Parra, & Bennett, 2010; Simon & Furman, 2010), wat gepaard gaat met het opgroeien in een warme en zorgzame omgeving (Feldman, Gowen, & Fisher, 1998). Ook laten onze resultaten zien dat de ervaring met relaties van adolescenten ervaringen tijdens de kindertijd kunnen matigen. Een voorbeeld daarvan is de observatie dat *weinig zorg over relaties met leeftijdsgenoten* het effect van tegenspoed in de relatie van de ouders tijdens vroege adolescentie kan bufferen. Al met al concluderen wij dat ervaringen op jonge leeftijd slechts een indirecte impact hebben op later functioneren door het triggeren van een bepaald ontwikkelingspad (Sroufe, Coffino, & Carlson, 2010). Toch zijn ontwikkelingen over de levensloop niet perse lineair en ieder moment in het leven kan als een potentieel keerpunt dienen.

Een belangrijk punt dient gemaakt te worden wat de implicaties van ons werk betreft. Hoewel een duidelijk relatie tussen ervaringen in het gezin en het initiëren van romantische relaties door adolescenten is aangetoond, zijn we nog niet in staat gebleken om conclusies te trekken wat de kwaliteit van deze relaties betreft. Het is mogelijk dat adolescenten relaties aangaan om onprettige situaties in de thuissituatie te vermijden terwijl ze nog niet “klaar” zijn voor een dergelijke verbintenis of terwijl ze de vaardigheid ontbreekt om een goede relatie te onderhouden. Om antwoord te geven op deze vraag zal toekomstig onderzoek specifiek aandacht moeten geven aan de kwaliteit van relaties van adolescenten.

# References

- Aalen, O. O., Borgan, Ø., & Gjessing, H. K. (2008). *Survival and event history analysis. A process point of view*. New York, NY: Springer.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Allison, P. D. (1982). Discrete-time methods for the analysis of event histories. *Sociological Methodology*, 13, 61 – 98.
- Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and Family*, 62, 1269 – 1287.
- Amato, P. R. (2010). Research on divorce: Continuing trends and new developments. *Journal of Marriage and Family*, 72, 650 – 666.
- Amato, P. R., & DeBoer, D. D. (2001). The transmission of marital instability across generations: Relationship skills or commitment to marriage? *Journal of Marriage and Family*, 63, 1038 – 1051.
- Amato, P. R., & Sobolewski, J. M. (2001). The effects of divorce and marital discord on adult children's psychological well-being. *American Sociological Review*, 66, 900 – 921.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497 – 529.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 323 – 370.
- Bentler, P. M., & Speckart, C. (1979). Models of attitude-behavior relations. *Psychological Review*, 5, 452 – 464.
- Berndt, T. J. (2004). Children's friendships: Shift over a half-century in perspectives on their development and their effects. *Merrill-Palmer Quarterly*, 50, 206 – 223.
- Blokland, A. A. J., & Nieuwbeerta, P. (2005). The effects of life circumstances on longitudinal trajectories of offending. *Criminology*, 43, 1203 – 1240.
- Blossfeld, H. P., & Mills, M. (2001). A causal approach to interrelated family events: A cross-national comparison of cohabitation, nonmarital conception, and marriage. *Special Issue on Longitudinal Methodology, Canadian Studies in Population*, 28, 409 – 437.
- Blossfeld, H. P., Golsch, K., & Rowher, G. (2007). *Event history analysis with Stata*. Mahwah, NJ: Erlbaum.
- Booth, A., Brinkerhoff, D. B. B., & White, L. K. (1984). The impact of parental divorce on courtship. *Journal of Marriage and Family*, 46, 85 – 94.
- Borooah, V. K. (2001). *Logit and probit: Ordered and multinomial models*. Thousand Oaks, CA: Sage.
- Bowlby, J. (1973). *Attachment and loss. Volume 2: Separation*. New York, NY: Basic Books.
- Branje, S. J. T., van Aken, M. A. G., & van Lieshout, C. F. M. (2002). Relational support in families with adolescents. *Journal of Family Psychology*, 16, 351 – 362.
- Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and early experience – a reappraisal of retrospective reports. *Psychological Bulletin*, 113, 82 – 98.



- Brim, O. G. (1966). Socialization through the life cycle. In O. G. Brim & S. Wheeler (Eds.), *Socialization after childhood: Two essays*. New York, NY: Wiley.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bumpass, L. L., Martin, T. C., & Sweet, J. A. (1991). The impact of family background and early marital factors on marital disruption. *Journal of Family Issues*, 12, 22-42.
- Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Lawrence Erlbaum.
- Capaldi, D. M., & Clark, S. (1998). Prospective family predictors of aggression toward female partner for at-risk young men. *Developmental Psychology*, 34, 1175 – 1188.
- Capaldi, D. M., Crosby, L., & Stoolmiller, M. (1996). Predicting the timing of first sexual intercourse for at-risk adolescent males. *Child Development*, 67, 344 – 359.
- Carver, K., Joyner, K., & Udry, J. R. (2003). National estimates of adolescent romantic relationships. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 23 – 57). Mahwah, NJ: Erlbaum.
- Caspi, A., Moffitt, T. E., Thornton, A., Freedman, D., Amell, J. W., Harrington, H., ...Silva, P. A. (1996). The life history calendar. A research and clinical assessment method for collecting retrospective event-history data. *International Journal of Methods in Psychiatric Research*, 6, 101 – 114.
- Cavanagh, S. E., Crissey, S. R., & Raley, R. K. (2008). Family structure history and adolescent romance. *Journal of Marriage and Family*, 70, 698 – 714.
- Celeux, G., & Soromenho, G. (1996). An entropy criterion for assessing the number of clusters in a mixture model. *Journal of Classification*, 13, 195 – 212.
- Collins, N. L., Cooper, M. L., Albino, A., & Allard, L. (2002). Psychological vulnerability from adolescence to adulthood: A prospective study of attachment style differences in relationship functioning and partner choice. *Journal of Personality*, 70, 965 – 1008.
- Collins, W. A. (2003). More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence*, 13, 1 – 24.
- Collins, W. A., & van Dulmen, M. (2006). The course of true love(s): Origins and pathways in the development of romantic relationships. In A. Booth & A. Crouter (Eds.), *Romance and sex in adolescence and emerging adulthood: Risks and opportunities* (pp. 63 – 86). Mahwah, NJ: Erlbaum.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist*, 55, 218 – 232.
- Conger, R. D., Cui, M., Bryant, C. M., & Elder, G. H. (2000). Competence in early adult romantic relations: A developmental perspective on family influences. *Journal of Personality and Social Psychology*, 79, 224 – 237.
- Connolly, J. A., & Konarski, R. (1994). Peer self-concept in adolescence: Analysis of factor structure and of associations with peer experience. *Journal of Research on Adolescence*, 4, 385 – 403.
- Connolly, J. A., Craig, W., Goldberg, A., & Pepler, D. (1999). Conceptions of cross-sex friendships and romantic relationships in early adolescence. *Journal of Youth and Adolescence*, 28, 481 – 494.

- Connolly, J. A., Craig, W., Goldberg, A., & Pepler, D. (2004). Mixed-gender groups, dating, and romantic relationships in early adolescence. *Journal of Research on Adolescence*, 14, 185 – 207.
- Connolly, J. A., Furman, W., & Konarski, R. (2000). The role of peers in the emergence of heterosexual romantic relationships in adolescence. *Child Development*, 71, 1395 – 1408.
- Cox, D. (1972). Regression models and life tables. *Journal of the Royal Statistical Society*, 34, 187 – 202.
- Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science*, 12, 193 – 196.
- Cramer, D. (1993). Personality and marital dissolution. *Personality and Individual Differences*, 14, 605 – 607.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children social-adjustment. *Psychological Bulletin*, 115, 74 – 101.
- Crockett, L. J. & Randall, B. A. (2006). Linking adolescent family and peer relationships to the quality of young adult romantic relationships: The mediating role of conflict tactics. *Journal of Social and Personal Relationships*, 23, 761 – 780.
- Crosnoe, R., & Cavanagh, S. E. (2010). Families with children and adolescents: A review, critique, and future agenda. *Journal of Marriage and Family*, 72, 594 – 611.
- Cui, M., Donnellan, M. B., & Conger, R. D. (2007). Reciprocal influences between parents' marital problems and adolescent internalizing and externalizing behavior. *Developmental Psychology*, 43, 1544 – 1552.
- Dainton, M. (2000). Maintenance behaviors, expectations for maintenance, and satisfaction: Linking comparison levels to relational maintenance strategies. *Journal of Social and Personal Relationships*, 17, 827 – 842.
- De Graaf, A. (2008). *Nearly half a million single parents in the Netherlands*. Retrieved from Statistics Netherlands website: <http://www.cbs.nl/en-GB/menu/themas/bevolking/publicaties/artikelen/archief/2008/2008-2546-wm.htm>
- De Winter, A. F., Oldehinkel, A. J., Veenstra, R., Brunnekreef, J. A., Verhulst, F. C., & Ormel, J. (2005). Evaluation of non-response bias in mental health determinants and outcomes in a large sample of pre-adolescents. *European Journal of Epidemiology*, 20, 173 – 181.
- Dekovic, M., & Meeus, W. (1997). Peer relations in adolescence: Effects of parenting and adolescents' self-concept. *Journal of Adolescence*, 20, 163 – 176.
- Demo, D. H., & Acock, A. C. (1996). Family structure, family process and adolescent well-being. *Journal of Research on Adolescence*, 6, 457 – 488.
- Dhariwal, A., Connolly, J., Paciello, M., & Caprara, G. V. (2009). Adolescent peer relationships and emerging adult romantic styles: A longitudinal study of youth in an Italian community. *Journal of Adolescent Research*, 24, 579 – 600.
- Dorn, L. D., Susman, E. J., Nottelmann, E. D., Inoff-Germain, G., & Chrousos, G. P. (1990). Perceptions of puberty – adolescent, parent, and health-care personnel. *Developmental Psychology*, 26, 322 – 329.

- Elder, G. H. (1985). *Life course dynamics: Trajectories and transitions, 1968 – 1980*. London, England: Cornell University Press.
- Elder, G. H., & Shanahan, M. J. (2006). The life course and human development. In W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology* (6<sup>th</sup> ed., Vol. 1, pp. 665 – 715). New Jersey, NJ: John Wiley & Sons, Inc.
- Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer, & M. J. Shanahan (Eds.), *Handbook of the life course* (pp. 3 – 19). New York, NY: Kluwer Academic/Plenum.
- Ellis, L. K. (2002). *Individual differences and adolescent psychosocial development*. Ph.D. dissertation, Department of Psychology, University of Oregon, Eugene, OR.
- Epstein, N. B., Baldwin, L. M., & Bishop, D. S. (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy*, 9, 171 – 180.
- Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytical review. *Psychological Bulletin*, 118, 108 – 132.
- Erikson, E. (1963). *Childhood and society*. New York, NY: Norton.
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Cambridge, England: Princeton University Press.
- Fagan, J., & Iglesias, A. (1999). Father involvement program effects on fathers, father figures, and their head start children: A quasi-experimental study. *Early Childhood Research Quarterly*, 14, 243 – 269.
- Feldman, S. S., Gowen, L. K., & Fisher, L. (1998). Family relationships and gender as predictors of romantic intimacy in young adults: A longitudinal study. *Journal of Research on Adolescence*, 8, 263 – 286.
- Finger, B., Eiden, R. D., Edwards, E. P., Leonard, K. E., & Kachadourian, L. (2010). Marital aggression and child peer competence: A comparison of three conceptual models. *Personal Relationships*, 17, 357 – 376.
- Finkel, E. J., Rusbult, C. E., Kumashiro, M., & Hannon, P. A. (2002). Dealing with betrayal in close relationships: Does commitment promote forgiveness? *Journal of Personality and Social Psychology*, 82, 956 – 974.
- Flouri, E., & Buchanan, A. (2002). What predicts good relationships with parents in adolescence and partners in adult life: Findings from the 1958 British birth cohort. *Journal of Family Psychology*, 16, 186 – 198.
- Franzoi, S. L., Davis, M. H., & Vasquez-Suson, K. A. (1994). Two social worlds: Social correlates and stability of adolescent status groups. *Journal of Personality and Social Psychology*, 67, 462 – 473.
- French, D. C., & Dishion, T. J. (2003). Predictors of early initiation of sexual intercourse among high-risk adolescents. *Journal of Early Adolescence*, 23, 295 – 315.
- Friedlander, L. J., Connolly, J. A., Pepler, D. J., & Craig, W. M. (2007). Biological, familial, and peer influences on dating in early adolescence. *Archives of Sexual Behavior*, 36, 821 – 830.
- Furman, W. (2002). The emerging field of adolescent romantic relationships. *Current Directions in Psychological Science*, 11, 177 – 180.

- Furman, W., & Shaffer, L. (2003). The role of romantic relationships in adolescent development. In P. Florsheim (Ed.), *Adolescent romantic relations and sexual behavior: Theory, research, and practical implications* (pp. 3 – 22). Mahwah, NJ: Erlbaum.
- Furman, W., & Simon, V. A. (2006). Actor and partner effects of adolescents' romantic working models and styles on interactions with romantic partners. *Child Development*, 77, 588 – 604.
- Furman, W., Low, S., & Ho, M. J. (2009). Romantic experience and psychosocial adjustment in middle adolescence. *Journal of Clinical Child and Adolescent Psychology*, 38, 75 – 90.
- Furstenberg, F. F., & Teitler, J. O. (1994). Reconsidering the effects of marital disruption: What happens to children of divorce in early adulthood? *Journal of Family Issues*, 15, 173 – 190.
- Furstenberg, F. F., Brooks-Gunn, J. & Morgan, S. P. (1989). *Adolescent mothers in later life*. New York, NY: Cambridge University Press.
- Gallagher, K. C. (2002). Does child temperament moderate the influence of parenting on adjustment? *Developmental Review*, 22, 623 – 643.
- Ganzeboom, H. B. G., De Graaf, P. M., & Treiman, D. J. (1992). A standard international socio-economic index of occupational status. *Social Science Research*, 21, 1 – 56.
- Ge, X., Brody, G. H., Conger, R. D., Simons, R. L., & Murry, V. M. (2002). Contextual amplification of pubertal transition effects on deviant peer affiliation and externalizing behavior among African American children. *Developmental Psychology*, 38, 42 – 54.
- Ge, X., Natsuaki, M. N., Neiderhiser, J. M., & Reiss, D. (2009). The longitudinal effects of stressful life events on adolescent depression are buffered by parent-child closeness. *Development and Psychopathology*, 21, 621 – 635.
- Gerard, J. M., Krishnakumar, A., & Buehler, C. (2006). Marital conflict, parent-child relations, and youth maladjustment: A longitudinal investigations of spillover effects. *Journal of Family Issues*, 27, 951 – 975.
- Giordano, P. C., Longmore, M. A., & Manning, W. D. (2006). Gender and the meaning of adolescent romantic relationships: A focus on boys. *American Sociological Review*, 71, 260 – 287.
- Glenn, N. D., & Kramer, K. B. (1987). The marriages and divorces of the children of divorce. *Journal of Marriage and Family*, 49, 811 – 825.
- Gomez, A. M. (2011). Testing the cycle of violence hypothesis: Child abuse and adolescent dating violence as predictors of intimate partner violence in young adulthood. *Youth and Society*, 43, 171 – 192.
- Graber, J. A., & Brooks-Gunn, J. (1996). Transitions and turning points: Navigating the passage from childhood through adolescence. *Developmental Psychology*, 32, 768 – 776.
- Grall, T. (2009). *Custodial mothers and fathers and their child support: 2007*. Retrieved from US Census Bureau website: <http://www.census.gov/prod/2009pubs/p60-237.pdf>
- Ha, T., Overbeek, G., Vermulst, A. A., & Engels, R. C. M. E. (2009). Marital quality, parenting, and adolescent internalizing problems: A three-wave longitudinal study. *Journal of Family Psychology*, 23, 263 – 267.

- Hagestad, G. O. (1986). Dimensions of time and the family. *American Behavioral Scientist*, 29, 679 – 694.
- Heifetz, M., Connolly, J., Pepler, D., & Craig, W. (2010). Family divorce and romantic relationships in early adolescence. *Journal of Divorce and Remarriage*, 51, 366 – 378.
- Hines, A. M. (1997). Divorce-related transitions, adolescent development, and the role of the parent-child relationship: A review of the literature. *Journal of Marriage and Family*, 59, 375 – 388.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., van der Laan, P. H., Smeenk, W., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology*, 37, 749 – 775.
- Holland, A. C., & Kensinger, E. A. (2010). Emotion and autobiographical memory. *Physics of Life Reviews*, 7, 88 – 131.
- Huisman, M., Oldehinkel, A. J., De Winter, A., Minderaa, R. B., De Bildt, A., Huizink, A. C., ... Ormel, J. (2008). Cohort Profile: The Dutch TRacking Adolescents Individual Lives Survey; TRAILS. *International Journal of Epidemiology*, 37, 1227 – 1235.
- Ivanova, K., Mills, M., & Veenstra, R. (2011). The initiation of dating in adolescence: The effect of parental divorce. The TRAILS study. *Journal of Research on Adolescence*, 21, 769 – 775.
- Johnson, M. K., Crosnoe, R., & Elder, G. H. (2011). Insights on adolescence from a life course perspective. *Journal of Research on Adolescence*, 21, 273 – 280.
- Joyner, K., & Udry, J. R. (2000). You don't bring me anything but down: Adolescent romance and depression. *Journal of Health and Social Behavior*, 41, 369 – 391.
- Kalmijn, M., Loevre, A., & Manting, D. (2007). Income dynamics in couples and the dissolution of marriage and cohabitation. *Demography*, 44, 159 – 179.
- Kane, H. S., Jaremka, L. M., Guichard, A. C., Ford, M. B., Collins, N. L., & Feeney, B. C. (2007). Feeling supported and feeling satisfied: How one partner's attachment style predicts the other partner's relationship experiences. *Journal of Social and Personal Relationships*, 24, 535 – 555.
- Kaplan, E. L., & Meier, P. (1958). Nonparametric estimation from incomplete observations. *Journal of the American Statistical Association*, 53, 457 – 481.
- Karlberg, P., Klackenber, G., Engstrom, I., Klackenber-Larsson, I., Liechtenstein, H., Stensson, J., & Svennberg, I. (1968). The development of children in a Swedish urban community. A prospective longitudinal study. I. Introduction, design and aims of the study. Description of the sample. *Acta Paediatrica Scandinavica*, 187, 9 – 27.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York, NY: John Wiley.
- Kerr, M., Stattin, H., Biesecker, G., & Ferrer-Wreder, L. (2003). Relationships with parents and peers in adolescence. In R. M. Lerner, M. A. Easterbrooks, & J. Mistry (Eds.), *Handbook of Psychology, Volume 6: Developmental Psychology* (pp. 395 – 422). Hoboken, NJ: John Wiley & Sons.



- Khaleque, A., & Rohner, R. P. (2002). Perceived parental acceptance rejection and psychological adjustment: A meta-analysis of cross-cultural and intracultural studies. *Journal of Marriage and Family*, 64, 54 – 64.
- Kim, H. S. (2011). Consequences of parental divorce for child development. *American Sociological Review*, 76, 487 – 511.
- Kim, J., Hetherington, M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalizing behavior: Gender and family type differences. *Child Development*, 70, 1209 – 1230.
- Kobus, K. (2003). Peers and adolescent smoking. *Addiction*, 98, 37 – 55.
- Kochanska, G., Aksan, N., & Joy, M. E. (2007). Children's fearfulness as a moderator of parenting in early socialization: Two longitudinal studies. *Developmental Psychology*, 43, 222 – 237.
- Kotchick, B. A., Shaffer, A., Forehand, R., & Miller, K. S. (2001). Adolescent sexual risk behavior: A multi-system perspective. *Clinical Psychology Review*, 21, 493 – 519.
- Krishnakumar, A., & Buehler, C. (2000). Interparental conflict and parenting behaviors: A meta-analytical review. *Family Relations*, 49, 25 – 44.
- Kuttler, A. F., LaGreca, A. M., & Prinstein, M. J. (1999). Friendship qualities and social-emotional functioning of adolescents with close, cross-sex friendships. *Journal of Research on Adolescence*, 9, 339 – 366.
- Lansford, J. E., Criss, M. M., Pettit, G. S., Dodge, K. A., & Bates, J. E. (2003). Friendship quality, peer group affiliation, and peer antisocial behavior as moderators of the link between negative parenting and adolescent externalizing behavior. *Journal of Research on Adolescence*, 13, 161 – 184.
- Latten, J., & de Graaf, A. (2010). *One quarter of couples married in the early 1990s are divorced 20 years later*. Retrieved from Statistics Netherlands website: <http://www.cbs.nl/en-GB/menu/themas/bevolking/publicaties/artikelen/archief/2010/2010-3230-wm.htm>
- Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta analysis of the investment model. *Personal Relationships*, 10, 37 – 57.
- Li, F., Barrera, M., Hops, H., & Fisher, K. J. (2002). The longitudinal influence of peers on the development of alcohol use in late adolescence: A growth mixture analysis. *Journal of Behavioral Medicine*, 25, 293 – 315.
- Liao, T. F. (1994). *Interpreting probability models: Logit, probit, and other generalized linear models*. Thousand Oaks, CA: Sage.
- Lindahl, K. M., Clements, M., & Markman, H. (1997). Predicting marital and parent functioning in dyads and triads: A longitudinal investigation of marital processes. *Journal of Family Psychology*, 11, 139 – 151.
- Lok, R. (2009). *More than 2,800 euro extra for families with children in 2007*. Retrieved from Statistics Netherlands website: <http://www.cbs.nl/en-GB/menu/themas/inkomen-bestedingen/publicaties/artikelen/archief/2009/2009-2799-wm.htm>
- Long, J. S. & Freese, T. (2006). *Regression models for categorical dependent variables using Stata, second edition*. College Station, TX: Stata Press.

- Lyketsos, C. G., Nestadt, G., Cwi, J., Heithoff, K., & Eaton, W. W. (1994). The life chart interview: A standardized method to describe the course of psychopathology. *International Journal of Methods in Psychiatric Research*, 4, 143 – 155.
- Madsen, S. D., & Collins, W. A. (2011). The salience of adolescent romantic experiences for romantic relationship qualities in young adulthood. *Journal of Research on Adolescence*, 21, 789 – 801.
- Manning, W. D., Longmore, M. A., & Giordano, P. C. (2007). The changing institution of marriage: Adolescents' expectations to cohabit and marry. *Journal of Marriage and Family*, 69, 559 – 575.
- Markus, M. T., Lindhout, I. E., Boer, F., Hoogendijk, T. H. G., & Arrindell, W. A. (2003). Factors of perceived parental rearing styles: The EMBU-C examined in a sample of Dutch primary school children. *Personality and Individual Differences*, 34, 503 – 519.
- Marshall, W. A., & Tanner, J. M. (1969). Variations in pubertal changes in girls. *Archives of Disease in Childhood*, 44, 291 – 303.
- Marshall, W. A., & Tanner, J. M. (1970). Variations in pubertal changes in boys. *Archives of Disease in Childhood*, 45, 13 – 23.
- Martin, V., Mills, M., & LeBourdais, C. (2005). The consequences of parental divorce on the life course outcomes of Canadian children. *Canadian Studies in Population*, 32, 29 – 51.
- Mayer, K. U. (2009). *New directions in life course research* (MZES Working Paper). Mannheim, Germany: Mannheimer Zentrum für Europäische Sozialforschung. Retrieved from <http://www.mzes.uni-mannheim.de/publications/wp/wp-122.pdf>
- McCarthy, B. & Casey, T. (2008). Love, sex and crime: Adolescent romantic relationships and offending. *American Sociological Review*, 73, 944 – 969.
- McCollum, E. E., Nelson, T. S., Lewis, R. A., & Trepper, T. S. (2005). Partner relationship quality and drug use as predictors of women's substance abuse treatment outcomes. *The American Journal of Drug and Alcohol Abuse*, 1, 111 – 127.
- McGue, M., Bacon, S., & Lykken, D. T. (1993). Personality stability and change in early adulthood: A behavioral genetic analysis. *Developmental Psychology*, 29, 96 – 109.
- Meeus, W. H. J., Branje, S. J. T., van der Valk, I., & de Wied, M. (2007). Relationships with intimate partner, best friend, and parents in adolescence and early adulthood: A study of the saliency of the intimate partnership. *International Journal of Behavioral Development*, 31, 569 – 580.
- Meeus, W. H. J., Branje, S., & Overbeek, G. (2004). Parents and partners in crime: A six-year longitudinal study on changes in supportive relationships and delinquency in adolescence and young adulthood. *Journal of Child Psychology and Psychiatry*, 45, 1288 – 1298.
- Menard, S. (1995). *Applied logistic regression analysis*. Sage university paper series on quantitative applications in the social sciences. Thousand Oaks, CA: Sage.
- Mendle, J., Harden, K. P., Turkheimer, E., van Hulle, C. A., D'Onofrio, B. M., Brooks-Gunn, J., ...Lahey, B. B. (2009). Associations between father absence and age of first sexual intercourse. *Child Development*, 80, 1463 – 1480.

- Menning, C., Holtzman, M., & Kapinus, C. (2007). Stepfather involvement and adolescents' disposition toward having sex. *Perspectives on Sexual and Reproductive Health, 39*, 82 – 89.
- Miller, S., Lansford, J. E., Costanzo, P., Malone, P. S., Golonka, M., & Killea-Jones, L. A. (2009). Early adolescent romantic partner status, peer standing, and problem behaviors. *Journal of Early Adolescence, 29*, 839 – 861.
- Mills, M. (2011). *Introducing survival and event history analysis*. London, England: Sage.
- Mills, M., & Poortman, A. R. (2010, April). *Registered partnerships in Europe: An alternative to marriage and cohabitation?* Paper presented at the Population Association of America Annual Meeting, Dallas, Texas, USA.
- Mills, M., & Taht, K. (2010). Nonstandard work schedules and partnership quality: Quantitative and qualitative findings. *Journal of Marriage and the Family, 72*, 860 – 875.
- Minuchin, P. (1985). Families and individual development – provocations from the field of family therapy. *Child Development, 56*, 289 – 302.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior - a developmental taxonomy. *Psychological Review, 100*, 674 – 701.
- Mueller, C. W., & Pope, H. (1977). Marital instability: A study of its transmission between generations. *Journal of Marriage and Family, 39*, 83 – 93.
- Mullahy, J. (1986). Specification and testing in some modified count data models. *Journal of Econometrics, 33*, 341 – 365.
- Muris, P., Meesters, C., & van Brakel, A. (2003). Assessment of anxious rearing behaviors with a modified version of “Egna Minnen Beträffande Uppfostran” questionnaire for children. *Journal of Psychopathology and Behavioral Assessment, 25*, 229 – 237.
- Muthén, L. K., & Muthén, B. O. (2010). *Mplus User's Guide* (6<sup>th</sup> ed.). Los Angeles, CA: Author.
- Nagin, D. (1999). Analyzing developmental trajectories: A semi-parametric group based approach. *Psychological Methods, 4*, 139 – 157.
- Natsuaki, M. N., Biehl, M. C., & Ge, X. (2009). Trajectories of depressed mood from early adolescence to young adulthood: The effects of pubertal timing and adolescent dating. *Journal of Research on Adolescence, 19*, 47 – 74.
- Neeman, J., Hubbard, J., & Masten, A. S. (1995). The changing importance of romantic relationship involvement to competence from late childhood to late adolescence. *Development and Psychopathology, 7*, 727 – 750.
- O'Connor, T. G. (2003). Early experiences and psychological development: Conceptual questions, empirical illustrations, and implications for intervention. *Development and Psychopathology, 15*, 671 – 690.
- Oldehinkel, A. J., Hartman, C. A., De Winter, A. F., Veenstra, R., & Ormel, J. (2004). Temperament profiles associated with internalizing and externalizing problems in preadolescence. *Development and Psychopathology, 19*, 523 – 540.
- Oldehinkel, A. J., Ormel, J., Veenstra, R., De Winter, A. F., & Verhulst, F. C. (2008). Parental divorce and offspring depressive problems: Dutch developmental trends during early adolescence. *Journal of Marriage and Family, 70*, 284 – 293.



- Oldehinkel, A. J., Verhulst, F. C., & Ormel, J. (2011). Mental health problems during puberty: Tanner stage-related differences in specific symptoms. The TRAILS Study. *Journal of Adolescence*, *34*, 73 – 86.
- Olsen, J. P., Parra, G. R., & Bennett, S. A. (2010). Predicting violence in romantic relationships during adolescence and emerging adulthood: A critical review of the mechanisms by which familial and peer influences operate. *Clinical Psychology Review*, *30*, 411 – 422.
- Overbeek, G., Stattin, H., Vermulst, A., Ha, T., & Engels, R. C. M. E. (2007). Parent-child relationships, partner relationships, and emotional adjustment: A birth-to-maturity prospective study. *Developmental Psychology*, *43*, 429 – 437.
- Overbeek, G., Vollebergh, W., Engels, R. C. M. E., & Meeus, W. (2003). Parental attachment and romantic relationships: Associations with emotional disturbance during late adolescence. *Journal of Counseling Psychology*, *50*, 28 – 39.
- Phinney, V. G., Jensen, L. C., Olsen, J. A., & Cundick, B. (1990). The relationship between early development and psychosexual behaviors in adolescent females. *Adolescence*, *25*, 321 – 332.
- Portegijs, W., Cloin, M., Ooms, I., & Eggink, E. (2006). *Hoe het werkt met kinderen: Moeders over kinderopvang en werk*. Den Haag, the Netherlands: Sociaal en Cultureel Planbureau.
- Potter, D. (2010). Psychosocial well-being and the relationship between divorce and children's academic achievement. *Journal of Marriage and Family*, *72*, 933 – 946.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879 – 891.
- Putnam, S. P., Ellis, L. K., & Rothbart, M. K. (2001). The structure of temperament from infancy through adolescence. In A. Elias & A. Angleitner (Eds.), *Advances/proceedings in research on temperament* (pp. 165 – 182). Lengerich, Germany: Pabst Scientist Publisher.
- Quatman, T., Sampson, K., Robinson, C., & Watson, C. M. (2001). Academic, motivational and emotional correlates of adolescent dating. *Genetic, Social, and General Psychology Monographs*, *127*, 211 – 234.
- Raley, R. K., Crissey, S. R., & Muller, C. (2007). Of sex and romance: Late adolescent relationships and young adult union formation. *Journal of Marriage and Family*, *69*, 1210 – 1226.
- Rehman, U. S., Gollan, J., & Mortimer, A. R. (2008). The marital context of depression: Research, limitations, and new directions. *Clinical Psychology Review*, *28*, 179 – 198.
- Roisman, G. I., Booth-LaForce, C., Cauffman, E., & Spieker, S. (2009). The developmental significance of adolescent romantic relationships: Parent and peer predictors of engagement and quality at age 15. *Journal of Youth and Adolescence*, *38*, 1294 – 1303.
- Roisman, G. I., Collins, W. A., Sroufe, L. A., & Engeland, B. (2005). Predictors of young adults' representations of and behavior in their current romantic relationship: Prospective tests of the prototype hypothesis. *Attachment and Human Development*, *7*, 105 – 121.

- Rothbart, M. K., & Putnam, S. P. (2002). Temperament and socialization. In L. Pulkkinen & A. Caspi (Eds.), *Paths to successful development. Personality in the life course* (pp.19 – 45). Cambridge, England: Cambridge University Press.
- Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality: Origins and outcomes. *Journal of Personality and Social Psychology*, 78, 122 – 135.
- Royston, P. (2007). Multiple imputation of missing values: Further update of *ice*, with an emphasis on interval censoring. *Stata Journal*, 9, 252 – 264.
- Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, 5, 296 – 320.
- Rubin, K. H., Dwyer, K. M., Booth-LaForce, C., Kim, A. H., Burgess, K. B., & Rose-Krasnor, L. (2004). Attachment, friendship, and psychosocial functioning in early adolescence. *Journal of Early Adolescence*, 24, 326 – 356.
- Ryan, S., Franzetta, K., Schelar, E., & Manlove, J. (2009). Family structure history: Links to relationship formation behaviors in young adulthood. *Journal of Marriage and Family*, 71, 935 – 953.
- Ryder, N. B. (1965). The cohort as a concept in the study of social change. *American Sociological Review*, 30, 843 – 861.
- Sampson, R. J., Laub, J. H., & Wimer, C. (2006). Does marriage reduce crime? A counterfactual approach to within-individual causal effects. *Criminology*, 44, 465 – 508.
- Sanson, A., Hemphill, S. A., & Smart, D. (2004). Connections between temperament and social development: A review. *Social Development*, 13, 142 – 170.
- Schaffer, H. R. (1996). *Social development*. Cambridge, MA: Blackwell.
- Schaffer, H. R. (2000). The early experience assumption: Past, present, and future. *International Journal of Behavioral Development*, 24, 5 – 14.
- Schalet, A. T. (2000). Raging hormones, regulated love: Adolescent sexuality and the constitution of the modern individual in the United States of America and the Netherlands. *Body and Society*, 6, 75 – 105.
- Scharf, M., & Mayseless, O. (2001). The capacity for romantic intimacy: Exploring the contribution of best friend and marital and parental relationships. *Journal of Adolescence*, 24, 379 – 399.
- Schermerhorn, A. C., Cummings, E. M., DeCarlo, C. A., & Davies, P. T. (2007). Children's influence in the marital relationship. *Journal of Family Psychology*, 21, 259 – 269.
- Schneider, B. H., Atkinson, L., & Tardif, C. (2001). Child-parent attachment and children's peer relations: A quantitative review. *Developmental Psychology*, 37, 86 – 100.
- Seiffge-Krenke, I. (2003). Testing theories of romantic development from adolescence to young adulthood: Evidence of a developmental sequence. *International Journal of Behavioral Development*, 27, 519 – 531.
- Seiffge-Krenke, I., Overbeek, G., & Vermulst (2010). Parent-child relationship trajectories during adolescence: Longitudinal associations with romantic outcomes in emerging adulthood. *Journal of Adolescence*, 33, 159 – 171.

- Seiffge-Krenke, I., Shulman, S., & Klessinger, N. (2001). Adolescent precursors of romantic relationships in young adulthood. *Journal of Social and Personal Relationships*, 18, 327 – 346.
- Sentse, M. (2010). Bridging contexts: The interplay between family, child, and peers in explaining problem behavior in early adolescence. Doctoral dissertation, University of Groningen, Groningen, the Netherlands. Retrieved from <http://irs.ub.rug.nl/ppn/324525141>
- Sentse, M., Lindenberg, S., Omvlee, A., Ormel, J., & Veenstra, R. (2010). Rejection and acceptance across contexts: Parents and peers as risks and buffers for early adolescent psychopathology. The TRAILS Study. *Journal of Abnormal Child Psychology*, 38, 119 – 130.
- Sentse, M., Veenstra, R., Lindenberg, S., Verhulst, F. C., & Ormel, J. (2009). Buffers and risks in temperament and family for early adolescent psychopathology: Generic, conditional, or domain-specific effects? The TRAILS study. *Developmental Psychology*, 45, 419 – 435.
- Settersten, R. A., & Mayer, K. U. (1997). The measurement of age, age structuring and the life course. *Annual Review of Sociology*, 23, 233 – 261.
- Siebenbruner, J., Zimmer-Gembeck, M. J., & Egeland, B. (2007). Sexual partners and contraceptive use: A 16-year prospective study predicting abstinence and risk behavior. *Journal of Research on Adolescence*, 17, 179 – 205.
- Simon, V. A., & Furman, W. (2010). Interparental conflict and adolescents' romantic relationship conflict. *Journal of Research on Adolescence*, 20, 188 – 209.
- Sroufe, L. A., Coffino, B., & Carlson, E. A. (2010). Conceptualizing the role of early experience: Lessons from the Minnesota longitudinal study. *Developmental Review*, 30, 36 – 51.
- Steele, F. A. (2005). *Event history analysis*. Retrieved from <http://eprints.ncrm.ac.uk/88/1/MethodsReviewPaperNCRM-004.pdf>
- Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11, 1 – 19.
- Steinberg, L., & Morris, A. S. (2001). Adolescent development. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual Review of Psychology* (Vol. 52, pp. 83 – 110). Palo Alto, CA: Annual Reviews.
- Sullivan, H. S. (1953). *Conceptions of modern psychiatry*. New York, NY: Norton.
- Talwar, R., Nitz, K., & Lerner, R. M. (1990). Relations among early adolescent temperament, parent and peer demands, and adjustment: A test of the goodness of fit model. *Journal of Adolescence*, 13, 279 – 298.
- Teachman, J. D. (2004). The childhood living arrangements of children and the characteristics of their marriages. *Journal of Family Issues*, 25, 86 – 111.
- Therneau, T. M., & Grambsch, P. M. (2000). *Modeling survival data: Extending the Cox model*. New York, NY: Springer.
- Thornton, A. (1991). Influence of the marital history of parents on the marital and cohabitational experiences of children. *American Journal of Sociology*, 96, 868 – 894.
- Thornton, A., & Camburn, D. (1987). The influence of the family on premarital sexual attitudes and behavior, *Demography*, 24, 323 – 340.

- van Leeuwen, K. G., Mervielde, I., Braet, C., & Bosmans, G. (2004). Child personality and parental behavior as moderators of problem behavior: Variable- and person-centered approaches. *Developmental Psychology, 40*, 1028 – 1046.
- Veenstra, R., Lindenberg, S., Tinga, F., & Ormel, J. (2010). Truancy in late elementary and early secondary education: The influence of social bonds and self-control. The TRAILS study. *International Journal of Behavioral Development, 34*, 302 – 310.
- Waldinger, R. J., Diguier, L., Guastella, F., Lefebvre, R., Allen, J. P., Luborsky, L., & Hauser, S. T. (2002). The same old song? Stability and change in relationship schemas from adolescence to young adulthood. *Journal of Youth and Adolescence, 31*, 17 – 29.
- Walter, S. D., Feinstein, A. R., & Wells, C. K. (1987). Coding ordinal independent variables in multiple regression analyses. *American Journal of Epidemiology, 125*, 319 – 323.
- Warr, M. (1998). Life-course transitions and desistence from crime. *Criminology, 36*, 183 – 216.
- Whitbeck, L. B., Simons, R. L., & Kao, M. Y. (1994). The effects of divorced mothers' dating behaviors and sexual attitudes on the sexual attitudes and behaviors of their adolescent children. *Journal of Marriage and Family, 56*, 615 – 621.
- Wolfinger, N. H. (2005). *Understanding the divorce cycle: The children of divorce in their own marriages*. New York, NY: Cambridge University Press.
- Wolfinger, N. H. (2011). More evidence for trends in the intergenerational transmission of divorce: A complete cohort approach using data from the General Social Survey. *Demography, 48*, 581 – 592.
- Zimmer-Gembeck, M. J., Siebenbruner, J., & Collins, W. A. (2001). Diverse aspects of dating: Associations with psychosocial functioning from early to middle adolescence. *Journal of Adolescence, 24*, 313 – 336.
- Zimmer-Gembeck, M. J., Siebenbruner, M. A., Collins, W. A. (2004). A Prospective study of intraindividual and peer influences on adolescents' heterosexual romantic and sexual behavior. *Archives of Sexual Behavior, 33*, 381 – 394.
- Zimmer-Gembeck, M., & Helfand, M. (2008). Ten years of longitudinal research on US adolescent sexual behavior: Developmental correlates of sexual intercourse, and the importance of age, gender and ethnic background. *Developmental Review, 28*, 153 – 224.



# A Word of Thanks

There is a well known proverb which says, “It takes a village to raise a child.” The same can certainly be said about writing a PhD dissertation. The completion of this work would have been impossible without the invaluable guidance, support, and encouragement of so many people and for this, I am incredibly grateful.

First, I would like to express my gratitude to my supervisors, Professors Melinda Mills and René Veenstra. You allowed me the freedom to make this project truly my own while at the same time giving me the support which I needed to become the researcher that I am today. Melinda, you always encouraged me to try things that I was not necessarily comfortable with at the beginning. These efforts, however, did not just benefit my current work but also made me aware of how much further I can and need to go with my research. René, you were always ready to provide thorough feedback on my work and to offer realistic solutions to the various problems that I faced with my research along the way. You have also created a wonderful cluster of young researchers around yourself that I was happy to be a part of. To both of you – thank you!

I would also like to thank Dr. Geertjan Overbeek, Dr. Jan Boom, and the department of Developmental Psychology at Utrecht University for welcoming me during my research visit in 2010. Geertjan, thank you for giving me the opportunity to work with you. I greatly enjoyed all of our work and non-work related talks along way.

My gratitude also goes to the members of this dissertation’s reading committee – Professors Maja Deković, Wendy Manning, and Siegwart Lindenberg. Thank you for taking the time to read my work, the feedback which you provided, and for the kind words which you had to say about it.

I consider myself very fortunate to have shared this trip with two great friends – Alona Labun and Valeska Korff. Valeska, we often do not see eye-to-eye on many topics but that is precisely what I enjoy so much about our talks. Having to defend my position in front of someone as strong-headed as me who quite clearly knows what she is talking about has always been a fun challenge. I certainly hope you saw it the same way. Alona, to you I owe thanks for much more than just the past four years. We have shared this trip ever since our first day in Utrecht, in 2007, not just as colleagues but for a long time, also as housemates. You have been an essential part of my support system here and I know that I am lucky to have a friend as positive, patient, and strong as you are!

In these four years, I shared an office with two colleagues who became very dear friends, Nicoletta Balbo and Michael Mäs. Sissi and Michael, I have not just learned so much about research and the scientist that I aspire to be from you - your support and trust in my capabilities have meant more to me than what I have probably told you. Thank you!

I spent the past four years in the company of some really wonderful people both inside and outside the Sociology Department. My thanks go to the terrific WALMers for

their sharp observations about my work and for the great trips which we shared (though I still get a bit “zenuwachtig” every time I hear “talent show”). As the “joint production” of two supervisors, I also benefitted from the comments of Melinda’s great group of PhDs for which I am grateful. Tobi, thank you for always being such a fantastic host but next time – let’s skip the watermelon! Loz, though at times I’ve been skeptical about the feasibility of some of your creative ideas, you have always proven me wrong. I really look forward to seeing the next project that you take on!

Despite the fact that I spent these four years mostly away from Utrecht, I am fortunate to have become a part of a wonderful circle of friends there. Thank you all for your spontaneity, exuberance, and the fun evenings which we shared, discussing (among other things) the right to silence and of course, the true nature of lemurs!

To the incredible group of people who I met all the way back in high-school and are still a great part of my life - благодаря ви, че все още ми се радвате като се върна и както Мони си поръча: С много обич!

Мило, на теб имам за много неща да ти благодаря, но засега искам да ти благодаря най-вече за едно – че не престана да ме слушаш независимо от количеството мрънкане!

Мамо и татко, надявам се да знаете, че това е толкова ваше постижение, колкото и мое. Мисълта, че имам сигурно място, където винаги мога да се върна, е част от причината да се справям далеч от вкъщи. Благодаря ви за всички саможертви, за вашата обич и безусловна подкрепа!

Catalin, aprecierile de final sunt pentru tine. Iti multumesc pentru incurajari si pentru faptul ca m-ai impins inainte in momente de cumpana, pentru rabdarea ta cand eu nu am avut-o, pentru sprijinul tau cand a fost nevoie de el mai mult. Sunt binecuvantata sa fii parte importanta in viata mea si am incredere pentru ceea ce va veni pentru noi!

# TRAILS Dissertation Series

This research is part of the TRacking Adolescents' Individual Lives Survey (TRAILS). Participating centers of TRAILS include various departments of the University Medical Center and University of Groningen, the Erasmus University Medical Center Rotterdam, the University of Utrecht, the Radboud Medical Center Nijmegen, and the Parnassia Bavo group, all in the Netherlands. TRAILS has been financially supported by various grants from the Netherlands Organization for Scientific Research NWO (Medical Research Council program grant GB-MW 940-38-011; ZonMW Brainpower grant 100-001-004; ZonMw Risk Behavior and Dependence grants 60-60600-98-018 and 60-60600-97-118; ZonMw Culture and Health grant 261-98-710; Social Sciences Council medium-sized investment grants GB-MaGW 480-01-006 and GB-MaGW 480-07-001; Social Sciences Council project grants GB-MaGW 457-03-018, GB-MaGW 452-04-314, and GB-MaGW 452-06-004; NWO large-sized investment grant 175.010.2003.005; NWO Longitudinal Survey and Panel Funding 481-08-013); the Sophia Foundation for Medical Research (projects 301 and 393), the Dutch Ministry of Justice (WODC), the European Science Foundation (EuroSTRESS project FP-006), and the participating universities. We are grateful to all adolescents, their parents and teachers who participated in this research and to everyone who worked on this project and made it possible.

- 1) Sondeijker, F.E.P.L. (2006). Neuroendocrine and autonomic risk factors for disruptive behaviors in adolescents. Promotores: Prof. dr. F.C. Verhulst, Prof. dr. J. Ormel. Copromotor: Dr. R.F. Ferdinand.
- 2) Brunnekreef, J.A. (2007). Information processing and problem behavior in preadolescents. Promotores: Prof. dr. J. Ormel, Prof. dr. R.B. Minderaa. Copromotores: Dr. M. Althaus, Dr. ir. L.M.J. de Sonnevile.
- 3) Dietrich, A. (2007). Autonomic nervous system function and behavioral characteristics in (pre)adolescents from a general population cohort. Promotores: Prof. dr. J. Neeleman, Prof. dr. J. Ormel. Copromotor: Dr. J.G.M. Rosmalen.
- 4) Greaves-Lord, K. (2007). Roots of Anxiety. The role of cardiovascular regulation and cortisol in the development of anxiety in early adolescence. Promotores: Prof. dr. F.C. Verhulst, Prof. dr. J. Ormel. Copromotor: Dr. A.C. Huizink.
- 5) Dijkstra, J.K. (2007). Status and affection among (pre)adolescents and their relation with antisocial and prosocial behavior. Promotor: Prof. dr. S. Lindenberg. Copromotor: Dr. R. Veenstra.
- 6) Amone, K.P. (2009). Examining the link between socio-economic position and mental health in early adolescents. Promotores: Prof. dr. J. Ormel, Prof. dr. A.J. Oldehinkel. Copromotor: Dr. H. Burger.
- 7) Noordhof, A. (2010). In the absence of a gold standard. Promotores: Prof. dr. J. Ormel, Prof. dr. A.J. Oldehinkel.
- 8) Sentse, M. (2010). Bridging contexts: the interplay between family, child, and peers in explaining problem behavior in early adolescence. Promotor: Prof. dr. S. Lindenberg. Copromotor: Dr. R. Veenstra.
- 9) Creemers, H.E. (2010). High Times - The role of temperament and other risk factors in the onset and continuation of cannabis use during adolescence. Promotores: Prof. F.C. Verhulst, Prof. A.C. Huizink.



- 10) Bouma, E.M.C. (2010). The Sensitive Sex - Depressive symptoms in adolescence and the role of gender, genes and physiological stress responses. Promotores: Prof. dr. A.J. Oldehinkel, Prof. dr. J. Ormel. Copromotor: dr. H. Riese.
- 11) Liem, E.T. (2010). Development of overweight in adolescence. Genes, growth & mood. Promotores: Prof. dr. R.P. Stolk, Prof. dr. P.J.J. Sauer.
- 12) Bakker, M.P. (2010). Stressful life events and adolescents' mental health - The TRAILS study. Promotores: Prof. dr. A.J. Oldehinkel, Prof. dr. J. Ormel.
- 13) Sijtsma, J.J. (2010). Adolescent Aggressive Behavior – Status and stimulation goals in relation to the peer context. Promotor: Prof. dr. S. Lindenberg. Copromotor: Dr. R. Veenstra.
- 14) Bosch, N.M. (2011). Adolescents in Stress. The ups and downs of the psychophysiological stress response. Promotores: Prof. dr. A.J. Oldehinkel, Prof. dr. J. Ormel. Copromotor: dr. H. Riese.
- 15) Wigman, J.T.W. (2011). Persistence of the Extended Psychosis Phenotype: linked between Vulnerability and Clinical Need. Promotores: Prof. dr. W.A.M. Vollebergh, Prof. dr. J. van Os.
- 16) Janssens, K.A.M. (2011). The etiology of functional somatic symptoms in adolescents. A new perspective on lumping and splitting. Promotores: Prof. dr. J.G.M. Rosmalen, Prof. Dr. A.J. Oldehinkel.

# ICS Dissertation Series

The ICS-series presents dissertations of the Interuniversity Center for Social Science Theory and Methodology. Each of these studies aims at integrating explicit theory formation with state-of-the-art empirical research or at the development of advanced methods for empirical research. The ICS was founded in 1986 as a cooperative effort of the universities of Groningen and Utrecht. Since 1992, the ICS expanded to the University of Nijmegen. Most of the projects are financed by the participating universities or by the Netherlands Organization for Scientific Research (NWO). The international composition of the ICS graduate students is mirrored in the increasing international orientation of the projects and thus, of the ICS-series itself.

- 1) C. van Liere, (1990). *Lastige Leerlingen. Een empirisch onderzoek naar sociale oorzaken van probleemgedrag op basisscholen*. Amsterdam: Thesis Publishers.
- 2) Marco H.D. van Leeuwen, (1990). *Bijstand in Amsterdam, ca. 1800 - 1850. Armenzorg als beheersings- en overlevingsstrategie*. ICS dissertation, Utrecht.
- 3) I. Maas, (1990). *Deelname aan podiumkunsten via de podia, de media en actieve beoefening. Substitutie of leereffecten?* Amsterdam: Thesis Publishers.
- 4) M.I. Broese van Groenou, (1991). *Gescheiden Netwerken. De relaties met vrienden en verwanten na echtscheiding*. Amsterdam: Thesis Publishers.
- 5) Jan M.M. van den Bos, (1991). *Dutch EC Policy Making. A Model-Guided Approach to Coordination and Negotiation*. Amsterdam: Thesis Publishers.
- 6) Karin Sanders, (1991). *Vrouwelijke Pioniers. Vrouwen en mannen met een 'mannelijke' hogere beroepsopleiding aan het begin van hun loopbaan*. Amsterdam: Thesis Publishers.
- 7) Sierp de Vries, (1991). *Egoism, Altruism, and Social Justice. Theory and Experiments on Cooperation in Social Dilemmas*. Amsterdam: Thesis Publishers.
- 8) Ronald S. Batenburg, (1991). *Automatisering in bedrijf*. Amsterdam: Thesis Publishers.
- 9) Rudi Wielers, (1991). *Selectie en allocatie op de arbeidsmarkt. Een uitwerking voor de informele en geïnstitutionaliseerde kinderopvang*. Amsterdam: Thesis Publishers.
- 10) Gert P. Westert, (1991). *Verschillen in ziekenhuisgebruik*. ICS dissertation, Groningen.
- 11) Hanneke Hermesen, (1992). *Votes and Policy Preferences. Equilibria in Party Systems*. Amsterdam: Thesis Publishers.
- 12) Cora J.M. Maas, (1992). *Probleemleerlingen in het basisonderwijs*. Amsterdam: Thesis Publishers.
- 13) Ed A.W. Boxman, (1992). *Contacten en carrière. Een empirisch-theoretisch onderzoek naar de relatie tussen sociale netwerken en arbeidsmarktposities*. Amsterdam: Thesis Publishers.
- 14) Conny G.J. Taes, (1992). *Kijken naar banen. Een onderzoek naar de inschatting van arbeidsmarktkansen bij schoolverlaters uit het middelbaar beroepsonderwijs*. Amsterdam: Thesis Publishers.
- 15) Peter van Roozendaal, (1992). *Cabinets in Multi-Party Democracies. The Effect of Dominant and Central Parties on Cabinet Composition and Durability*. Amsterdam: Thesis Publishers.
- 16) Marcel van Dam, (1992). *Regio zonder regie. Verschillen in en effectiviteit van gemeentelijk arbeidsmarktbeleid*. Amsterdam: Thesis Publishers.
- 17) Tanja van der Lippe, (1993). *Arbeidsverdeling tussen mannen en vrouwen*. Amsterdam: Thesis Publishers.
- 18) Marc A. Jacobs, (1993). *Software: Kopen of Kopiëren? Een sociaal-wetenschappelijk onderzoek onder PC-gebruikers*. Amsterdam: Thesis Publishers.
- 19) Peter van der Meer, (1993). *Verdringing op de Nederlandse arbeidsmarkt. Sector- en sekseverschillen*. Amsterdam: Thesis Publishers.
- 20) Gerbert Kraaykamp, (1993). *Over lezen gesproken. Een studie naar sociale differentiatie in leesgedrag*. Amsterdam: Thesis Publishers.

- 21) Evelien Zeggelink, (1993). *Strangers into Friends. The Evolution of Friendship Networks Using an Individual Oriented Modeling Approach*. Amsterdam: Thesis Publishers.
- 22) Jaco Berveling, (1994). *Het stempel op de besluitvorming. Macht, invloed en besluitvorming op twee Amsterdamse beleidsterreinen*. Amsterdam: Thesis Publishers.
- 23) Wim Bernasco, (1994). *Coupled Careers. The Effects of Spouse's Resources on Success at Work*. Amsterdam: Thesis Publishers.
- 24) Liset van Dijk, (1994). *Choices in Child Care. The Distribution of Child Care Among Mothers, Fathers and Non-Parental Care Providers*. Amsterdam: Thesis Publishers.
- 25) Jos de Haan, (1994). *Research Groups in Dutch Sociology*. Amsterdam: Thesis Publishers.
- 26) K. Boahene, (1995). *Innovation Adoption as a Socio-Economic Process. The Case of the Ghanaian Cocoa Industry*. Amsterdam: Thesis Publishers.
- 27) Paul E.M. Ligthart, (1995). *Solidarity in Economic Transactions. An Experimental Study of Framing Effects in Bargaining and Contracting*. Amsterdam: Thesis Publishers.
- 28) Roger Th. A.J. Leenders, (1995). *Structure and Influence. Statistical Models for the Dynamics of Actor Attributes, Network Structure, and their Interdependence*. Amsterdam: Thesis Publishers.
- 29) Beate Völker, (1995). *Should Auld Acquaintance Be Forgot...? Institutions of Communism, the Transition to Capitalism and Personal Networks: the Case of East Germany*. Amsterdam: Thesis Publishers.
- 30) A. Cancrinus-Matthijsse, (1995). *Tussen hulpverlening en ondernemerschap. Beroepsuitoefening en taakopvattingen van openbare apothekers in een aantal West-Europese landen*. Amsterdam: Thesis Publishers.
- 31) Nardi Steverink, (1996). *Zo lang mogelijk zelfstandig. Naar een verklaring van verschillen in oriëntatie ten aanzien van opname in een verzorgingstehuis onder fysiek kwetsbare ouderen*. Amsterdam: Thesis Publishers.
- 32) Ellen Lindeman, (1996). *Participatie in vrijwilligerswerk*. Amsterdam: Thesis Publishers.
- 33) Chris Snijders, (1996). *Trust and Commitments*. Amsterdam: Thesis Publishers.
- 34) Koos Postma, (1996). *Changing Prejudice in Hungary. A Study on the Collapse of State Socialism and Its Impact on Prejudice Against Gypsies and Jews*. Amsterdam: Thesis Publishers.
- 35) Jooske T. van Busschbach, (1996). *Uit het oog, uit het hart? Stabiliteit en verandering in persoonlijke relaties*. Amsterdam: Thesis Publishers.
- 36) René Torenvlied, (1996). *Besluiten in uitvoering. Theorieën over beleidsuitvoering modelmatig getoetst op sociale vernieuwing in drie gemeenten*. Amsterdam: Thesis Publishers.
- 37) Andreas Flache, (1996). *The Double Edge of Networks. An Analysis of the Effect of Informal Networks on Cooperation in Social Dilemmas*. Amsterdam: Thesis Publishers.
- 38) Kees van Veen, (1997). *Inside an Internal Labor Market: Formal Rules, Flexibility and Career Lines in a Dutch Manufacturing Company*. Amsterdam: Thesis Publishers.
- 39) Lucienne van Eijk, (1997). *Activity and Well-being in the Elderly*. Amsterdam: Thesis Publishers.
- 40) Róbert Gál, (1997). *Unreliability. Contract Discipline and Contract Governance under Economic Transition*. Amsterdam: Thesis Publishers.
- 41) Anne-Geerte van de Goor, (1997). *Effects of Regulation on Disability Duration*. ICS dissertation, Utrecht.
- 42) Boris Blumberg, (1997). *Das Management von Technologiekooperationen. Partnersuche und Verhandlungen mit dem Partner aus Empirisch-Theoretischer Perspektive*. ICS dissertation, Utrecht.
- 43) Marijke von Bergh, (1997). *Loopbanen van oudere werknemers*. Amsterdam: Thesis Publishers.
- 44) Anna Petra Nieboer, (1997). *Life-Events and Well-Being: A Prospective Study on Changes in Well-Being of Elderly People Due to a Serious Illness Event or Death of the Spouse*. Amsterdam: Thesis Publishers.
- 45) Jacques Niehof, (1997). *Resources and Social Reproduction: The Effects of Cultural and Material Resources on Educational and Occupational Careers in Industrial Nations at the End of the Twentieth Century*. ICS dissertation, Nijmegen.

- 46) Ariana Need, (1997). *The Kindred Vote. Individual and Family Effects of Social Class and Religion on Electoral Change in the Netherlands, 1956-1994*. ICS dissertation, Nijmegen.
- 47) Jim Allen, (1997). *Sector Composition and the Effect of Education on Wages: an International Comparison*. Amsterdam: Thesis Publishers.
- 48) Jack B.F. Hutten, (1998). *Workload and Provision of Care in General Practice. An Empirical Study of the Relation Between Workload of Dutch General Practitioners and the Content and Quality of their Care*. ICS dissertation, Utrecht.
- 49) Per B. Kropp, (1998). *Berufserfolg im Transformationsprozeß. Eine theoretisch-empirische Studie über die Gewinner und Verlierer der Wende in Ostdeutschland*. ICS dissertation, Utrecht.
- 50) Maarten H.J. Wolbers, (1998). *Diploma-inflatie en verdringing op de arbeidsmarkt. Een studie naar ontwikkelingen in de opbrengsten van diploma's in Nederland*. ICS dissertation, Nijmegen.
- 51) Wilma Smeenk, (1998). *Opportunity and Marriage. The Impact of Individual Resources and Marriage Market Structure on First Marriage Timing and Partner Choice in the Netherlands*. ICS dissertation, Nijmegen.
- 52) Marinus Spreen, (1999). *Sampling Personal Network Structures: Statistical Inference in Ego-Graphs*. ICS dissertation, Groningen.
- 53) Vincent Buskens, (1999). *Social Networks and Trust*. ICS dissertation, Utrecht.
- 54) Susanne Rijken, (1999). *Educational Expansion and Status Attainment. A Cross-National and Over-Time Comparison*. ICS dissertation, Utrecht.
- 55) Mérove Gijsberts, (1999). *The Legitimation of Inequality in State-Socialist and Market Societies, 1987-1996*. ICS dissertation, Utrecht.
- 56) Gerhard G. Van de Bunt, (1999). *Friends by Choice. An Actor-Oriented Statistical Network Model for Friendship Networks Through Time*. ICS dissertation, Groningen.
- 57) Robert Thomson, (1999). *The Party Mandate: Election Pledges and Government Actions in the Netherlands, 1986-1998*. Amsterdam: Thela Thesis.
- 58) Corine Baarda, (1999). *Politieke besluiten en boeren beslissingen. Het draagvlak van het mestbeleid tot 2000*. ICS dissertation, Groningen.
- 59) Rafael Wittek, (1999). *Interdependence and Informal Control in Organizations*. ICS dissertation, Groningen.
- 60) Diane Payne, (1999). *Policy Making in the European Union: an Analysis of the Impact of the Reform of the Structural Funds in Ireland*. ICS dissertation, Groningen.
- 61) René Veenstra, (1999). *Leerlingen - Klassen - Scholen. Prestaties en vorderingen van leerlingen in het voortgezet onderwijs*. Amsterdam, Thela Thesis.
- 62) Marjolein Achterkamp, (1999). *Influence Strategies in Collective Decision Making. A Comparison of Two Models*. ICS dissertation, Groningen.
- 63) Peter Mühlau, (2000). *The Governance of the Employment Relation. A Relational Signaling Perspective*. ICS dissertation, Groningen.
- 64) Agnes Akkerman, (2000). *Verdeelde vakbeweging en stakingen. Concurrentie om leden*. ICS dissertation, Groningen.
- 65) Sandra van Thiel, (2000). *Quangocratization: Trends, Causes and Consequences*. ICS dissertation, Utrecht.
- 66) Rudi Turksema, (2000). *Supply of Day Care*. ICS dissertation, Utrecht.
- 67) Sylvia E. Korupp (2000). *Mothers and the Process of Social Stratification*. ICS dissertation, Utrecht.
- 68) Bernard A. Nijstad (2000). *How the Group Affects the Mind: Effects of Communication in Idea Generating Groups*. ICS dissertation, Utrecht.
- 69) Inge F. de Wolf (2000). *Opleidingspecialisatie en arbeidsmarktsucces van sociale wetenschappers*. ICS dissertation, Utrecht.
- 70) Jan Kratzer (2001). *Communication and Performance: An Empirical Study in Innovation Teams*. ICS-dissertation, Groningen.
- 71) Madelon Kroneman (2001). *Healthcare Systems and Hospital Bed Use*. ICS/NIVEL-dissertation, Utrecht.

- 72) Herman van de Werfhorst (2001). *Field of Study and Social Inequality. Four Types of Educational Resources in the Process of Stratification in the Netherlands*. ICS-dissertation, Nijmegen.
- 73) Tamás Bartus (2001). *Social Capital and Earnings Inequalities. The Role of Informal Job Search in Hungary*. ICS-dissertation Groningen.
- 74) Hester Moerbeek (2001). *Friends and Foes in the Occupational Career. The Influence of Sweet and Sour Social Capital on the Labour Market*. ICS-dissertation, Nijmegen.
- 75) Marcel van Assen (2001). *Essays on Actor Perspectives in Exchange Networks and Social Dilemmas*. ICS-dissertation, Groningen.
- 76) Inge Sieben (2001). *Sibling Similarities and Social Stratification. The Impact of Family Background across Countries and Cohorts*. ICS-dissertation, Nijmegen.
- 77) Alinda van Bruggen (2001). *Individual Production of Social Well-Being. An Exploratory Study*. ICS-dissertation, Groningen.
- 78) Marcel Coenders (2001). *Nationalistic Attitudes and Ethnic Exclusionism in a Comparative Perspective: An Empirical Study of Attitudes Toward the Country and Ethnic Immigrants in 22 Countries*. ICS-dissertation, Nijmegen.
- 79) Marcel Lubbers (2001). *Exclusionistic Electorates. Extreme Right-Wing Voting in Western Europe*. ICS-dissertation, Nijmegen.
- 80) Uwe Matzat (2001). *Social Networks and Cooperation in Electronic Communities. A theoretical-empirical Analysis of Academic Communication and Internet Discussion Groups*. ICS-dissertation, Groningen.
- 81) Jacques P.G. Janssen (2002). *Do Opposites Attract Divorce? Dimensions of Mixed Marriage and the Risk of Divorce in the Netherlands*, ICS-dissertation, Nijmegen.
- 82) Miranda Jansen (2002). *Waardenoriëntaties en partnerrelaties. Een panelstudie naar wederzijdse invloeden*, ICS-dissertation, Utrecht.
- 83) Anne Rigt Poortman (2002). *Socioeconomic Causes and Consequences of Divorce*. ICS-dissertation, Utrecht.
- 84) Alexander Gattig (2002). *Intertemporal Decision Making*, ICS-dissertation, Groningen.
- 85) Gerrit Rooks (2002). *Contract en Conflict: Strategisch Management van Inkooptransacties*, ICS-dissertation, Utrecht.
- 86) Károly Takács (2002). *Social Networks and Intergroup Conflict*. ICS-dissertation, Groningen.
- 87) Thomas Gautschi (2002). *Trust and Exchange, Effects of Temporal Embeddedness and Network Embeddedness on Providing and Dividing a Surplus*. ICS-dissertation, Utrecht.
- 88) Hilde Bras (2002). *Zeeuwse meiden. Dienen in de levensloop van vrouwen, ca. 1850 – 1950*. Aksant Academic Publishers, Amsterdam.
- 89) Merijn Rengers (2002). *Economic Lives of Artists. Studies into Careers and the Labour Market in the Cultural Sector*, ICS-dissertation, Utrecht.
- 90) Annelies Kassenberg (2002). *Wat scholieren bindt. Sociale gemeenschap in scholen*, ICS-dissertation, Groningen
- 91) Marc Verboord (2003). *Moet de meester dalen of de leerling klimmen? De invloed van literatuuronderwijs en ouders op het lezen van boeken tussen 1975 en 2000*. ICS-dissertation, Utrecht.
- 92) Marcel van Egmond (2003). *Rain Falls on All of Us (but Some Manage to Get More Wet than Others): Political Context and Electoral Participation*. ICS-dissertation, Nijmegen.
- 93) Justine Horgan (2003). *High Performance Human Resource Management in Ireland and the Netherlands: Adoption and Effectiveness*. ICS-dissertation, Groningen.
- 94) Corine Hoeben (2003). *LET'S' Be a Community. Community in Local Exchange Trading Systems*. ICS-dissertation, Groningen.
- 95) Christian Steglich (2003). *The Framing of Decision Situations. Automatic Goal Selection and Rational Goal Pursuit*. ICS-dissertation, Groningen.
- 96) Johan van Wilsem (2003). *Crime and Context. The Impact of Individual, Neighborhood, City and Country Characteristics on Victimization*. ICS-dissertation, Nijmegen.
- 97) Christiaan Monden (2003). *Education, Inequality and Health. The Impact of Partners and Life Course*. ICS-dissertation, Nijmegen.



- 98) Evelyn Hello (2003). *Educational Attainment and Ethnic Attitudes. How to Explain their Relationship*. ICS-dissertation, Nijmegen.
- 99) Marnix Croes en Peter Tammes (2004). *Gif laten wij niet voortbestaan. Een onderzoek naar de overlevingskansen van joden in de Nederlandse gemeenten, 1940-1945*. Aksant Academic Publishers, Amsterdam
- 100) Ineke Nagel (2004). *Cultuurdeelname in de levensloop*. ICS- dissertation, Utrecht.
- 101) Marieke van der Wal (2004). *Competencies to Participate in Life. Measurement and the Impact of School*. ICS-dissertation, Groningen.
- 102) Vivian Meertens (2004). *Depressive Symptoms in the General Population: a Multifactorial Social Approach*. ICS -dissertation, Nijmegen.
- 103) Hanneke Schuurmans (2004). *Promoting Well-Being in Frail Elderly People. Theory and Intervention*. ICS-dissertation, Groningen.
- 104) Javier Arregui (2004). *Negotiation in Legislative Decision-Making in the European Union*. ICS-dissertation, Groningen.
- 105) Tamar Fischer (2004). *Parental Divorce, Conflict and Resources. The Effects on Children's Behaviour Problems, Socioeconomic Attainment, and Transitions in the Demographic Career*. ICS-dissertation, Nijmegen.
- 106) René Bekkers (2004). *Giving and Volunteering in the Netherlands: Sociological and Psychological Perspectives*. ICS-dissertation, Utrecht.
- 107) Renée van der Hulst (2004). *Gender Differences in Workplace Authority: An Empirical Study on Social Networks*. ICS-dissertation, Groningen.
- 108) Rita Smaniotta (2004). *'You Scratch My Back and I Scratch Yours' Versus 'Love Thy Neighbour'. Two Proximate Mechanisms of Reciprocal Altruism*. ICS-dissertation, Groningen.
- 109) Maurice Gesthuizen (2004). *The Life-Course of the Low-Educated in the Netherlands: Social and Economic Risks*. ICS-dissertation, Nijmegen.
- 110) Carlijne Philips (2005). *Vakantiegemeenschappen. Kwalitatief en Kwantitatief Onderzoek naar Gelegenheid en Refresbergemeenschap tijdens de Vakantie*. ICS-dissertation, Groningen.
- 111) Esther de Ruijter (2005). *Household Outsourcing*. ICS-dissertation, Utrecht.
- 112) Frank van Tubergen (2005). *The Integration of Immigrants in Cross-National Perspective: Origin, Destination, and Community Effects*. ICS-dissertation, Utrecht.
- 113) Ferry Koster (2005). *For the Time Being. Accounting for Inconclusive Findings Concerning the Effects of Temporary Employment Relationships on Solidary Behavior of Employees*. ICS-dissertation, Groningen.
- 114) Carolien Klein Haarhuis (2005). *Promoting Anti-Corruption Reforms. Evaluating the Implementation of a World Bank Anti-Corruption Program in Seven African Countries (1999-2001)*. ICS-dissertation, Utrecht.
- 115) Martin van der Gaag (2005). *Measurement of Individual Social Capital*. ICS-dissertation, Groningen.
- 116) Johan Hansen (2005). *Shaping Careers of Men and Women in Organizational Contexts*. ICS-dissertation, Utrecht.
- 117) Davide Barrera (2005). *Trust in Embedded Settings*. ICS-dissertation, Utrecht.
- 118) Mattijs Lambooi (2005). *Promoting Cooperation. Studies into the Effects of Long-Term and Short-Term Rewards on Cooperation of Employees*. ICS-dissertation, Utrecht.
- 119) Lotte Vermeij (2006). *What's Cooking? Cultural Boundaries among Dutch Teenagers of Different Ethnic Origins in the Context of School*. ICS-dissertation, Utrecht.
- 120) Mathilde Strating (2006). *Facing the Challenge of Rheumatoid Arthritis. A 13-year Prospective Study among Patients and Cross-Sectional Study among Their Partners*. ICS-dissertation, Groningen.
- 121) Jannes de Vries (2006). *Measurement Error in Family Background Variables: The Bias in the Intergenerational Transmission of Status, Cultural Consumption, Party Preference, and Religiosity*. ICS-dissertation, Nijmegen.
- 122) Stefan Thau (2006). *Workplace Deviance: Four Studies on Employee Motives and Self-Regulation*.

- ICS-dissertation, Groningen.
- 123) Mirjam Plantinga (2006). *Employee Motivation and Employee Performance in Child Care. The effects of the Introduction of Market Forces on Employees in the Dutch Child-Care Sector*. ICS-dissertation, Groningen.
  - 124) Helga de Valk (2006). *Pathways into Adulthood. A Comparative Study on Family Life Transitions among Migrant and Dutch Youth*. ICS-dissertation, Utrecht.
  - 125) Henrike Elzen (2006). *Self-Management for Chronically Ill Older People*. ICS-Dissertation, Groningen.
  - 126) Ayse Güveli (2007). *New Social Classes within the Service Class in the Netherlands and Britain. Adjusting the EGP Class Schema for the Technocrats and the Social and Cultural Specialists*. ICS-dissertation, Nijmegen.
  - 127) Willem-Jan Verhoeven (2007). *Income Attainment in Post-Communist Societies*. ICS-dissertation, Utrecht.
  - 128) Marieke Voorpostel (2007). *Sibling support: The Exchange of Help among Brothers and Sisters in the Netherlands*. ICS-dissertation, Utrecht.
  - 129) Jacob Dijkstra (2007). *The Effects of Externalities on Partner Choice and Payoffs in Exchange Networks*. ICS-dissertation, Groningen.
  - 130) Patricia van Echtelt (2007). *Time-Greedy Employment Relationships: Four Studies on the Time Claims of Post-Fordist Work*. ICS-dissertation, Groningen.
  - 131) Sonja Vogt (2007). *Heterogeneity in Social Dilemmas: The Case of Social Support*. ICS-dissertation, Utrecht.
  - 132) Michael Schweinberger (2007). *Statistical Methods for Studying the Evolution of Networks and Behavior*. ICS-dissertation, Groningen.
  - 133) István Back (2007). *Commitment and Evolution: Connecting Emotion and Reason in Long-term Relationships*. ICS-dissertation, Groningen.
  - 134) Ruben van Gaalen (2007). *Solidarity and Ambivalence in Parent-Child Relationships*. ICS-dissertation, Utrecht.
  - 135) Jan Reitsma (2007). *Religiosity and Solidarity – Dimensions and Relationships Disentangled and Tested*. ICS-dissertation, Nijmegen.
  - 136) Jan Kornelis Dijkstra (2007). *Status and Affection among (Pre)Adolescents and Their Relation with Antisocial and Prosocial Behavior*. ICS-dissertation, Groningen.
  - 137) Wouter van Gils (2007). *Full-time Working Couples in the Netherlands. Causes and Consequences*. ICS-dissertation, Nijmegen.
  - 138) Djamila Schans (2007). *Ethnic Diversity in Intergenerational Solidarity*. ICS-dissertation, Utrecht.
  - 139) Ruud van der Meulen (2007). *Brug over Woelig Water: Lidmaatschap van Sportverenigingen, Vriendschappen, Kennissenkringen en Veralgemeend Vertrouwen*. ICS-dissertation, Nijmegen.
  - 140) Andrea Knecht (2008). *Friendship Selection and Friends' Influence. Dynamics of Networks and Actor Attributes in Early Adolescence*. ICS-dissertation, Utrecht.
  - 141) Ingrid Doorten (2008). *The Division of Unpaid Work in the Household: A Stubborn Pattern?* ICS-dissertation, Utrecht.
  - 142) Stijn Ruiter (2008). *Association in Context and Association as Context: Causes and Consequences of Voluntary Association Involvement*. ICS-dissertation, Nijmegen.
  - 143) Janneke Joly (2008). *People on Our Minds: When Humanized Contexts Activate Social Norms*. ICS-dissertation, Groningen.
  - 144) Margreet Frieling (2008). *'Joint production' als motor voor actief burgerschap in de buurt*. ICS-dissertation, Groningen.
  - 145) Ellen Verbakel (2008). *The Partner as Resource or Restriction? Labour Market Careers of Husbands and Wives and the Consequences for Inequality Between Couples*. ICS-dissertation, Nijmegen.
  - 146) Gijs van Houten (2008). *Beleidsuitvoering in gelaagde stelsels. De doorwerking van aanbevelingen van de Stichting van de Arbeid in het CAO-overleg*. ICS-dissertation, Utrecht.
  - 147) Eva Jaspers (2008). *Intolerance over Time. Macro and Micro Level Questions on Attitudes Towards*

- Euthanasia, Homosexuality and Ethnic Minorities*. ICS-dissertation, Nijmegen.
- 148) Gijs Weijters (2008). *Youth Delinquency in Dutch Cities and Schools: A Multilevel Approach*. ICS-dissertation, Nijmegen.
  - 149) Jessica Pass (2009). *The Self in Social Rejection*. ICS-dissertation, Groningen.
  - 150) Gerald Mollenhorst (2009). *Networks in Contexts. How Meeting Opportunities Affect Personal Relationships*. ICS-dissertation, Utrecht.
  - 151) Tom van der Meer (2009). *States of Freely Associating Citizens: Comparative Studies into the Impact of State Institutions on Social, Civic and Political Participation*. ICS-dissertation, Nijmegen.
  - 152) Manuela Vieth (2009). *Commitments and Reciprocity in Trust Situations. Experimental Studies on Obligation, Indignation, and Self-Consistency*. ICS-dissertation, Utrecht.
  - 153) Rense Corten (2009). *Co-evolution of Social Networks and Behavior in Social Dilemmas: Theoretical and Empirical Perspectives*. ICS-dissertation, Utrecht.
  - 154) Arieke J. Rijken (2009). *Happy Families, High Fertility? Childbearing Choices in the Context of Family and Partner Relationships*. ICS-dissertation, Utrecht.
  - 155) Jochem Tolsma (2009). *Ethnic Hostility among Ethnic Majority and Minority Groups in the Netherlands. An Investigation into the Impact of Social Mobility Experiences, the Local Living Environment and Educational Attainment on Ethnic Hostility*. ICS-dissertation, Nijmegen.
  - 156) Freek Bucx (2009). *Linked Lives: Young Adults' Life Course and Relations With Parents*. ICS-dissertation, Utrecht.
  - 157) Philip Wotschack (2009). *Household Governance and Time Allocation. Four studies on the combination of work and care*. ICS-dissertation, Groningen.
  - 158) Nienke Moor (2009). *Explaining Worldwide Religious Diversity. The Relationship between Subsistence Technologies and Ideas about the Unknown in Pre-industrial and (Post-)industrial Societies*. ICS-dissertation, Nijmegen.
  - 159) Lieke ten Brummelhuis (2009). *Family Matters at Work. Depleting and Enriching Effects of Employees' Family lives on Work Outcomes*. ICS-dissertation, Utrecht.
  - 160) Renske Keizer (2010). *Remaining Childless. Causes and Consequences from a Life Course Perspective*. ICS-dissertation, Utrecht.
  - 161) Miranda Sentse (2010). *Bridging Contexts: The interplay between Family, Child, and Peers in Explaining Problem Behavior in Early Adolescence*. ICS-dissertation, Groningen.
  - 162) Nicole Tieben (2010). *Transitions, Tracks and Transformations. Social Inequality in Transitions into, through and out of Secondary Education in the Netherlands for Cohorts Born Between 1914 and 1985*. ICS-dissertation, Nijmegen.
  - 163) Birgit Pauksztat (2010). *Speaking up in Organizations: Four Studies on Employee Voice*. ICS-dissertation, Groningen.
  - 164) Richard Zijdemann (2010). *Status Attainment in the Netherlands, 1811-1941. Spatial and Temporal Variation Before and During Industrialization*. ICS-dissertation, Utrecht.
  - 165) Rianne Kloosterman (2010). *Social Background and Children's Educational Careers. The Primary and Secondary Effects of Social Background over Transitions and over Time in the Netherlands*. ICS-dissertation, Nijmegen.
  - 166) Olav Aarts (2010). *Religious Diversity and Religious Involvement. A Study of Religious Markets in Western Societies at the End of the Twentieth Century*. ICS-dissertation, Nijmegen.
  - 167) Stephanie Wiesmann (2010). *24/7 Negotiation in Couples Transition to Parenthood*. ICS-dissertation, Utrecht.
  - 168) Borja Martinovic (2010). *Interethnic Contacts: A Dynamic Analysis of Interaction Between Immigrants and Natives in Western Countries*. ICS-dissertation, Utrecht.
  - 169) Anne Roeters (2010). *Family Life Under Pressure? Parents' Paid Work and the Quantity and Quality of Parent-Child and Family Time*. ICS-dissertation, Utrecht.
  - 170) Jelle Sijtsema (2010). *Adolescent Aggressive Behavior: Status and Stimulation Goals in Relation to the Peer Context*. ICS-dissertation, Groningen.
  - 171) Kees Keizer (2010). *The Spreading of Disorder*. ICS-dissertation, Groningen.



- 172) Michael Mäs (2010). *The Diversity Puzzle. Explaining Clustering and Polarization of Opinions*. ICS-dissertation, Groningen.
- 173) Marie-Louise Damen (2010). *Cultuurdeelname en CKV. Studies naar effecten van kunsteducatie op de cultuurdeelname van leerlingen tijdens en na het voortgezet onderwijs*. ICS-dissertation, Utrecht.
- 174) Marieke van de Rakt (2011). *Two generations of Crime: The Intergenerational Transmission of Convictions over the Life Course*. ICS-dissertation, Nijmegen.
- 175) Willem Huijnk (2011). *Family Life and Ethnic Attitudes. The Role of the Family for Attitudes Towards Inter-marriage and Acculturation Among Minority and Majority Groups*. ICS-dissertation, Utrecht.
- 176) Tim Huijts (2011). *Social Ties and Health in Europe. Individual Associations, Cross-National Variations, and Contextual Explanations*. ICS-dissertation, Nijmegen.
- 177) Wouter Steenbeek (2011). *Social and Physical Disorder. How Community, Business Presence and Entrepreneurs Influence Disorder in Dutch Neighborhoods*. ICS-dissertation, Utrecht.
- 178) Miranda Vervoort (2011). *Living Together Apart? Ethnic Concentration in the Neighborhood and Ethnic Minorities' Social Contacts and Language Practices*. ICS-dissertation, Utrecht.
- 179) Agnieszka Kanas (2011). *The Economic Performance of Immigrants. The Role of Human and Social Capital*. ICS-dissertation, Utrecht.
- 180) Lea Ellwardt (2011). *Gossip in Organizations. A Social Network Study*. ICS-dissertation, Groningen.
- 181) Annemarije Oosterwaal (2011). *The Gap between Decision and Implementation. Decision making, Delegation and Compliance in Governmental and Organizational Settings*. ICS-dissertation, Utrecht.
- 182) Natascha Notten (2011). *Parents and the Media. Causes and Consequences of Parental Media Socialization*. ICS-dissertation, Nijmegen.
- 183) Tobias Stark (2011). *Integration in Schools. A Process Perspective on Students' Interethnic Attitudes and Interpersonal Relationships*. ICS-dissertation, Groningen.
- 184) Giedo Jansen (2011). *Social Cleavages and Political Choices. Large-scale Comparisons of Social Class, Religion and Voting Behavior in Western Democracies*. ICS-dissertation, Nijmegen.
- 185) Ruud van der Horst (2011). *Network Effects on Treatment Results in a Closed Forensic Psychiatric Setting*. ICS-dissertation, Groningen.
- 186) Mark Levels (2011). *Abortion Laws in European Countries between 1960 and 2010. Legislative Developments and Their Consequences for Women's Reproductive Decision-making*. ICS-dissertation, Nijmegen.
- 187) Marieke van Londen (2012). *Exclusion of ethnic minorities in the Netherlands. The effects of individual and situational characteristics on opposition to ethnic policy and ethnically mixed neighbourhoods*. ICS-dissertation, Nijmegen.
- 188) Sigrid M. Mohnen (2012). *Neighborhood context and health: How neighborhood social capital affects individual health*. ICS-dissertation, Utrecht.
- 189) Asya Zhelyazkova (2012). *Compliance under Controversy: Analysis of the Transposition of European Directives and their Provisions*. ICS-dissertation, Utrecht.
- 190) Valeska Korff (2012). *Between Cause and Control: Management in a Humanitarian Organization*. ICS-dissertation, Groningen.
- 191) Maike Gieling (2012). *Dealing with Diversity: adolescents' support for civil liberties and immigrant rights*. ICS-dissertation, Utrecht.
- 192) Katya Ivanova (2012). *From Parents to Partners: The Impact of Family on Romantic Relationships in Adolescence and Emerging Adulthood*. ICS-dissertation, Groningen.